# THE LANCET.

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# An Address
ON THE
# PATHOLOGY OF HEART FUNCTION.

*Delivered at the Pathological Section of the British Medical Association Meeting, Aberdeen,*

BY THOMAS LEWIS, M.D. LOND., F.R.C.P. LOND., D.SC.,
PHYSICIAN, CITY OF LONDON HOSPITAL; ASSISTANT PHYSICIAN, UNIVERSITY COLLEGE HOSPITAL.

GENTLEMEN,—With your assent I propose to confine my observations within certain bounds, and to deal with questions to which answers have been eagerly and widely sought during the past few years in this country. My remarks will be concerned with those curious disorders of the heart's action which are disturbances of the regular sequence of chamber contraction.

## THE RESULTS OF RECENT WORK.

At the outset let us detect and isolate the first chief product of recent work. From the accumulated study of the past few years springs the knowledge that the mechanism of the human heart beat may be perturbed in one of several chief ways; each is now distinctly recognisable in the patient, each may be reproduced in the experimental animal. To that extent each is clearly understood. Phenomena with which we had to deal, the meaning of which was unknown to us, are now, thanks to this work, clearly and indisputably known to result from defined changes in the action of the heart. The identification of the types of cardiac irregularity has been a first and great advance. It is an advance which has been taken with security and finality. That the action of the human heart may be disturbed by sinus arrhythmia, heart-block, extrasystole, simple paroxysms of tachycardia, auricular flutter, auricular fibrillation, and alternation of the ventricle is known beyond all reasonable doubt. This analysis forms no longer a centre for discussion; it is, perforce, the first and generally accepted foundation for discussion. I pass, then, from such questions as the reasons for irregularity of the heart, affirming that the problems which concern themselves with the kinds of these disorders are solved. Excepting a few of the rarest and least important disturbances, the analysis of disordered heart action has ended.

The inquiry proceeds to its second stage—search for the causes of the named disorders. So far as we are able, let us carry forward our certain knowledge of the existence of these disorders and study them impartially, freed from the constructed hypotheses which already closely surround them. There is, so I think, one hypothesis in particular which impedes us, and Wenckebach, to whom we owe so much for our knowledge of these disorders, is in the first place responsible for it. It is the attempt to correlate these disturbances of the heart's action with perversions of those hypothetical functions of heart muscle to which Engelmann pledged his faith. While Gaskell first demonstrated that certain attributes of heart muscle are affected in varying degree by such procedures as stimulation of the great heart nerves, Engelmann followed him and attempted a nicer delimitation, regarding these attributes as isolated and strictly separate functions. To accept the doctrines of Engelmann's school is to accept the view that rhythmicity, excitability, contractility, and conductivity are functions of muscle so independent that each has a distinct chemical process underlying it. Now it is not within the proper range of pathological speculation fully to discuss the merits or demerits of this doctrine, which has attaching to it a fatiguing Greek terminology of its own, but it is within our province to consider if such doctrine is acceptable as a basis for pathological thought. I would remind you that it is a departure not only from general but from special physiological teaching in this country. Gaskell was at much pains to emphasise, not so much the varying effects of vagal stimulation upon different qualities of muscles, but the special endowment of certain regions of the heart with different qualities. It was to the junction of sinus and auricles and to the junction of auricles and ventricles that he pointed as to tissue specially endowed with rhythmic properties; it was to these same tissues he attributed a less highly developed power of conducting impulses. The important divergence of these trains of thought, that of Gaskell and his successor, has been insufficiently appreciated in the pathological world.

The observations of these earlier workers were undertaken upon the lower orders of the vertebrate heart; we as pathologists deal finally with more highly organised structures. I would lay stress on this consideration, that valuable as is the knowledge of the amphibian and reptilian heart, valuable especially in guiding us to a true appreciation of the more fully developed organ, we should never forget that our real business is with the mammalian heart, and that the basis of pathological argument should be a basis of mammalian anatomy and physiology; these sciences form the actual connecting links between pathology and the more elemental sciences.

## HEART FUNCTION IN RELATION TO DISTURBED HEART ACTION.

I return to the question of heart function in its relation to disordered heart beat. Sinus arrhythmia is, as you know, a disturbance of the heart's rhythm at its source—an irregularity of the whole organ. Is it justifiable to classify it as a disorder of rhythmicity? Remember that the term rhythmicity, as we are now using it, is a special term, used to designate a function of heart muscle generally. Have we to deal with a change in this general property of the heart muscle as a whole? We may or we may not; there is little or no evidence. But the facts are these. The mammalian heart beat originates in the immediate vicinity of a small and specially constructed mass of tissue, the sino-auricular node. Indeed, it is now a generally accepted view that this node originates the mammalian heart beat; we may regard this node as one of a few collections of tissue specially endowed in Gaskell's sense with the property of rhythmic impulse formation. Cool this node, the heart rhythm is retarded; destroy the node, the natural rhythm of the heart is lost. Are such disturbances to be regarded as disturbances of rhythmicity? In the last case evidently not, for we deal with local destruction of tissue. Similarly in auriculo-ventricular heart-block, where we deal with minor changes in the facility of impulse transmission, we might hesitate to deny the affection of a function "conductivity" in specific instances; but when that slender strand, the auriculo-ventricular bundle, is broken, transected by the growth of

abnormal tissue or by injury, we may not think in terms of altered functions, we must think perforce of tissue damage.

My thesis is that we have no direct knowledge of disordered "rhythmicity" or disordered "conductivity," &c., in the human heart, using these terms in their special senses, and that Wenckebach's classification of irregularities of the heart, based as it is upon Engelmann's hypothesis, rests upon an insufficiently secure foundation. The dangers of the functional hypothesis cannot and have not been avoided. Gaskell's argument, pointing as it does to specific regions of the heart, gives us a safer direction.

Yet it appears questionable if a purely physiological or purely anatomical basis can in the end serve us. Pathology must take count of new factors. In Wenckebach's classification extrasystoles are forced into the category of disturbed "excitability." Now excitability is the power of the heart to respond to external stimuli, electric, mechanical, or chemical. Its degree is measured by testing the strength of the threshold stimulus. That spontaneous extrasystoles are forced by some abnormal stimulus acting upon a hyperexcitable ventricle is a supposition for which no evidence has been adduced. On the contrary, there are conditions in which excitability, electrically tested, is depressed, and in which these beats are prevalent (notably in poisoning with potassium chloride). It is not in the quality excitability that the change is to be sought, but rather in the forces which explode the developing contraction. We know of no process in the working of the normal heart which in any way resembles the shock used to test excitability; in forcing a contraction this shock usurps the normal process of stimulation by anticipating it. In the extrasystole there is some similar agency at work; good ground can be taken for the belief that the stimulus is of an abrupt kind, that it is not a hurrying of normal impulse formation; but that it is of a kind as foreign to the physiological organ as is the induced current.

These preliminary considerations I have dwelt upon at some length because I think it of great importance at the outset we should have clear and solid ground upon which to stand. Consider the separate disorders of the heart's mechanism in terms of function and you veil them with mental concepts of an unstable and elusive, if not delusive, nature; consider them as simple facts and treat each upon its own merits, and you have rock beneath your feet. Briefly, my view is that pathology as a science is safe when it leaps from the *facts* of physiology; but that its footing is precarious when its take off is the physiological hypothesis. The remaining part of my paper will conform to this point of view; I propose to discuss a few of the problems which are suggested by contemporary observations, and which are concerned with separate disorders of cardiac mechanism.

### AURICULO-VENTRICULAR HEART-BLOCK.

I have said that the existence of auriculo-ventricular heart-block in man, the subject of disease, has been abundantly proved; it has been proved in its many grades. It seems to me also that we can point, without fear of contradiction from facts, to the cause of this heart-block in a large number of our patients. There is to my mind no doubt from our evidence that the sequence of the contractions of auricle and ventricle is normally and wholly maintained through the medium of the auriculo-ventricular bundle; and that structural damage which completely breaks this slender tract is responsible for a number of instances of complete dissociation. It is not my present intention to discuss this evidence, for I have done so somewhat fully in another place. But I may remark upon the significance of these observations. The heart-block which so arises is engendered neither by an affection of "conductivity" nor by an original lack of conductive power on the part of the tissues involved. It is the result purely of accident, the division by disease of the conducting fibres, concentrated in a slender tract. In many of those instances where, though complete dissociation has been present, the lesions found after death but partially break the anatomical continuity, a similar explanation may be quite rationally held, for here we may assume complete loss of function even though there is but incomplete loss of structure; meaning by function not the single function of "conductivity," so called, but all function. But likewise instances are on record of complete dissociation in which no lesions have been discovered in this tract, and I may be allowed briefly to relate a few reflections upon these types of heart-block.

Experimental heart-block may be obtained in one of three chief ways: (1) by direct interference with the conducting tracts; (2) by stimulation of the vagus nerve, directly or indirectly; and (3) by the introduction of poisons into or by altering the metabolites of the circulating blood. That heart-block is induced in the human subject by similar disturbances is known. It follows when a calcareous or gummatous mass or malignant growth invades and divides the tract; it can be produced by pressure upon the vagus in the neck; it occurs in asphyxia when the heart is dying. But it is a moot point if long-continued heart-block of high grade is ever produced in the human subject by purely nervous or purely chemical influences. There are no unquestionable records of the complete though temporary removal of such heart-block by the administration of atropine, though the test has often been applied, and experimental heart-block of high grade and resulting from poisoning can be induced only where the heart is reduced to a nearly moribund state. For these and other reasons my own feeling is that persistent heart-block of high grade is invariably the result of a local tissue damage or that there is some cause of heart-block with which we are as yet totally unacquainted. It may be that our histological methods are still too imperfect to demonstrate conspicuous lesions, as they were in the nervous system before the discovery of Wallerian degeneration.

Temporary heart-block in man, on the other hand, is to be explained on the grounds of nervous influence or chemical change in some instances. In what region of the heart are such influences felt? In some recent experiments, in conjunction with Dr. J. Meakins and Dr. P. D. White,[1] I have been able to return a partial answer to this question, and the answer conforms to Gaskell's teaching. The vagus in producing heart-block acts upon the region of the conducting tissues in the immediate neighbourhood of the a.-v. node. So also does the single poison tested, a product of asphyxiation. Unquestionably this region of the conducting tissue is a susceptible point, a natural blocking point. This and other evidence supports the conclusion that heart-block, produced in one of

[1] Heart, 1914, vol. v.

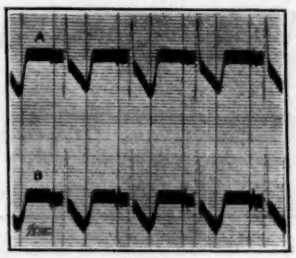
the three named ways, is conditioned by interference, be it through direct, nervous, or chemical channels, with the auriculo-ventricular conducting system, and especially with the auriculo-ventricular node and bundle.

### PREMATURE CONTRACTIONS AND ALLIED DISORDERS OF THE HEART'S RHYTHM.

There are several disorders of the heart's action which are very closely related. I refer to premature contractions (or extrasystoles), to paroxysmal tachycardia, to auricular flutter, and to fibrillation. It is well known that in patients who suffer from attacks of either one of the three last-named disturbances premature contractions are common in the intervals between the attacks; they are especially common when the attack is pending, or immediately at its offset. In experiments almost any interference which will produce one or other of the graver disturbances will when moderated produce the extrasystole. Influences which abate the greater, for example flushing the heart with blood in anæmic subjects by pressing on the abdomen, or the injection of small doses of potassium chloride in animals, will also abolish the lesser malady. In many patients who are the subjects of extrasystoles these beats are not isolated; the interruptions of the heart's rhythm may for periods be by single premature beats, but here and there one disturbance is quickly followed by a second; the extrasystoles are coupled. In the same or other patients groups of three or more such beats may be seen from time to time, though the customary event in these hearts is the solitary interruption. Now if we consider the solitary beat and the first of a short run of beats, we can discover no difference between them by any of our methods of examination. Both start prematurely, both originate in the same focus, and this focus is almost always an abnormal one; it may be in auricle, it may be in ventricle. The events which succeed the disturbance differ, but only because in one case the same event is repeated. If we examine the effects of the solitary beat upon the subsequent beating of the heart we discover essentially the same effects as those which follow the last of a short succession of such contractions. The conclusion is, I think, inevitable—namely, that the solitary extrasystole and the individual beats of a short run are of the same nature. A precisely similar conclusion applies to extrasystoles and to individual beats of a long-continued paroxysm of tachycardia. If, as is often the case, the short run of beats is continued for 10, 15, or more cycles, the phrase "run of extrasystoles" is no longer applied to it; the disturbance constitutes the simplest form of paroxysmal tachycardia. In other words, there is no real dividing line; there is no essential distinction to differentiate the run of two or more extrasystoles from a paroxysm of tachycardia which lasts for many hours. Clinical and experimental evidence show the same want of definite boundary between the paroxysmal tachycardia and auricular flutter; here the distinction is chiefly one of heart rate, and this passes through all gradations. Lastly, the same conclusion applies to paroxysmal tachycardia or flutter and the more complex conditions called fibrillation.

Let me for purposes of illustration describe the response of the ventricle while this organ is under the influence of gradually lightening chloroform anæsthesia, for the events and their progress are very striking. The first disturbance may come with solitary extrasystoles arising at a recognisable focus (say A) in the ventricle; it is followed by similar extrasystolic interruptions from other foci (recognisable as coming, we will say, from B and C); the extrasystoles of these types become grouped, and a paroxysm of tachycardia of mixed form follows; the type of tachycardia, at first consisting of beats from foci A, B, and C, ultimately becomes still more complicated, and the coördinate action of the heart may ultimately become submerged and replaced by the condition termed fibrillation. The transition from the first extrasystole to the ultimate condition of fibrillation is a gradual one, a passage from the less to the more complex.[2]

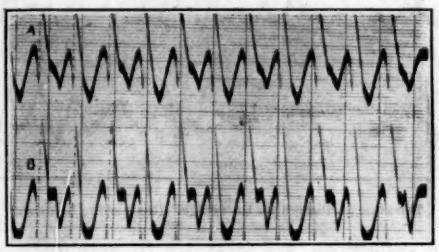
FIG. 1.




Simultaneous electric curves taken directly from two closely adjoining points on the wall of the right ventricle, showing the normal heart beats. The vertical lines represent given instants in time at 1/5 second intervals. Ordinates 1 cm. = 20 millivolts. (Reduced to half size.)

I argue from these and from similar facts that all the disturbances of the heart's action at present under consideration have the same essential pathology, whose simplest expression is the solitary premature contraction. But I would add that this conclusion appeals to me as one open to discussion; it is of no small importance if true, for in that case the key to some of the most important problems of cardiac pathology will be found when the cause of the solitary extrasystole is discovered.

FIG. 2.



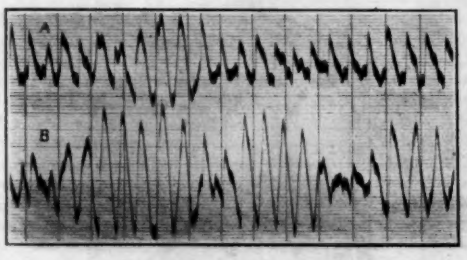

A record from the same points while the apex of the ventricle is stimulated with a weak faradic current. The heart is responding irregularly but coördinately at about 300 per minute. (Reduced to half size.)

That ventricular fibrillation is associated with independent activity of closely adjoining strands of muscle in the wall of the ventricles is, I think, clear by such records as those which I now show you. Suppose we place two small contacts on the

[2] The fact that the transition is sometimes less gradual and that the growth of the disorder is in steps does not affect the general line of reasoning.

superficies of the heart, exposed experimentally, and lead from each of them to an indifferent point.[3] You may obtain with a sensitive galvanometer two simultaneous curves, indicating the electric state of the muscle in these adjoining areas. When the heart is beating normally you record curves from the two areas which are practically identical, the time interval between corresponding deflections in the two curves being so small as to be imperceptible to the naked eye. (Fig. 1.) The two areas become active coördinately. Now if you stimulate a part of the ventricle some distance away with a weak faradic current and gradually increase the strength of this current, eventually the heart responds

FIG. 3.




Immediately after the onset of permanent fibrillation. Coördination between the two areas is now lost. (Reduced to half size.)

to it. It responds by a series of somewhat irregular but very rapid contractions at a rate of about 300 per minute. So rapid are the contractions that the circulation is seriously embarrassed; yet the records at this stage still show that the two muscle areas have become active at constant intervals relative to each other; the heart wall is still beating coördinately. (Fig. 2.) But press the stimulation further and the phenomenon known as fibrillation supervenes, and immediately it comes you see its characteristic writing. (Fig. 3.)

FIG. 4.

The same fibrillation at a later stage. (Reduced to half size.)

The deflections are irregular in amplitude and incidence and occur at first at a rate of some 500–600 per minute; no blood is ejected from the heart at this stage; and the records show that the adjoining muscle areas are no longer coördinated. Each gives the same type of curve, but individual deflections do not correspond either in amplitude or time incidence. The heart dies in this state, and as it dies the oscillations become slower and more rounded (Fig. 4), but still maintain their independence in the simultaneously written curves. This observation leaves no doubt of the independent activity of the adjoining muscle areas, and shows that the subdivision of the muscle is considerable. For such curves are obtained when the contacts actually meet each other. That this independence is the result of independent formation of impulses, consequent upon the spread of a condition of irritation, appeals to me most forcibly.

I pass to a consideration of the cause of extrasystoles as they occur in disease, and to the causes of allied disorders, and in doing so am aware that I enter a field of controversy.

### RELATION BETWEEN EXTRASYSTOLIC AND PHYSIOLOGICAL BEAT.

I have already drawn attention to the similarity between the reaction of the heart to an electric shock and to its reaction to whatever creates an ordinary extrasystole, and have hinted that the two reactions may have much in common. But the matter may be approached in a more convincing fashion if we closely compare the extrasystole with the physiological beat. My present thesis is that there are clear distinctions between them. These distinctions are to be sought in the nature of the processes which precede and induce contractions and not in the contraction itself.

1. The most remarkable character of the extrasystole is its *prematurity*. It occurs as a rule long before such time as a heart-beat is expected. The process which prepares the physiological heart-beat is slow, that which precedes the extrasystole is abrupt. In the human ventricle, when it is isolated and beating in response to its own natural rhythm, a beat of physiological type is prepared in no shorter time than half a second, usually the time required is as much as a second and a half; the extrasystole may arise in the ventricle after no greater rest than a twentieth or a fiftieth of a second.

2. The second distinctive character which I would emphasise is the absence of rhythmic tendency. Extrasystoles, it is true, may occur in sequence, but that is not their habit; their habit is to stand isolated. The physiological heart-beat is essentially rhythmic; when a beat of this kind is once built up the next is prepared more readily, and the beats occur in an accelerating succession until the final rate is fully established. If the extrasystole is repeated, and such repetition is, as I have stated, not habitual, then this acceleration is not seen,[4] the rate is maximal from the commencement and is maintained as a general rule with wonderful uniformity. But the extrasystole is almost always isolated, and it is followed by a pause which on account of its length offers many opportunities of repetition of which the extrasystole fails to avail itself. The contrast with the natural ventricular beat could not be greater; the latter proclaims itself at each opportunity; when impulses are lacking to stimulate the ventricle, the ventricle initiates its own slow rhythm; if impulses reach it irregularly the ventricle will beat spontaneously at each lapse of a given period of time.

3. Those influences which promote spontaneous rhythms do not necessarily promote premature contractions. In those centres where the property of rhythmic impulse formation is highly developed, this property is always active under conditions of normal nutrition; though it may be temporarily dormant if the centre under observation is already responding to a more active rhythm. It suffices to

[3] The lead may be from closely placed paired contacts on the heart wall; the effects are the same.

[4] Such, at all events, is the rule.

inhibit the receipt of such impulses, when the centre invariably awakens. Extrasystolic contractions are not seen in these circumstances; they are especially associated with malnutrition or poisoning. There is no relation between the heightened activity of physiological heart rhythms and the prevalence of extrasystoles. Often influences which depress one favour the occurrence of the other. No more notable example could be cited than the action of potassium chloride, which in full doses retards natural impulse formation in the heart, while it creates extrasystoles.

4. The reaction to the heart nerves is different in the two cases, and this has been noticed particularly in respect of the vagus. Stimulation of the vagus slows the physiological rhythm, be it of auricular or auriculo-ventricular origin; and with graded stimulation the slowing is gradual and is followed by an equally characteristic and gradual acceleration until the original rate is reached or surpassed. The action of the vagus upon extrasystolic beats, occurring successively, is essentially different. There is either no reaction or an abrupt and complete termination of these beats.

5. The naturally rhythmic centres are not the centres from which extrasystoles commonly arise. Electrocardiographic studies have taught us a great deal as to the foci from which contractions spring. Physiological beats are propagated mainly from three centres—the sino-auricular and auriculo-ventricular nodes and the auriculo-ventricular bundle. These are the most rhythmic centres of the heart. The rarest forms of extrasystole are those which arise in these structures; they come as a rule from other regions of the heart.

6. The physiological rhythm is fastest which is propagated from tissue lying nearest to the superior cava, and as we pass to other centres the rhythmic properties are found to be less highly developed. There is no known difference in the rates at which extrasystolic contractions are built up in the auricle and ventricle, whether the rate be judged of in the solitary or in the successive beats.

These arguments will suffice to support the proposition, which I offer for discussion—namely, that certain of the preparatory processes which precede the normal contraction on the one hand, and the extrasystolic contraction on the other are essentially different, and that those which precede the latter are of a kind foreign to the physiological heart.

### THE RÔLE OF THE HEART NERVES IN CAUSING EXTRASYSTOLES.

I turn to the final problem upon which I have remarks to offer: the relation of the heart nerves to extrasystolic contractions. And at the beginning let it be emphasised that this is a distinct problem from the influence of the nervous apparatus upon the activities of natural or physiological impulses, so at all events I think it should be considered. In discussing this question I shall refer more than once to the important recent work of Rothberger and Winterberg. Rothberger and Winterberg's papers must be read with a close regard for the nature of the rhythms which they produce; they have not recognised the possible, nay probably, distinctions between the two types of contraction which we have just reviewed. Many of the examples of new rhythms which they publish as resulting from nerve stimulation are not, or are not certainly, of an extrasystolic nature, but are, or may be, accelerated rhythms of the physiological order, though emanating from abnormal centres. This criticism is a serious though not a complete criticism of their work, and one which not immaterially affects their conclusions. I would also caution you in another respect. We shall discuss the influence of the nerves upon extrasystolic contraction, and use as illustrations successive contractions and fibrillation. This is necessary while the facts at our disposal are relatively meagre; but it should not be forgotten that the argument is based to some extent upon the hypothesis that fibrillation is extrasystolic in kind; in the future it will be necessary to safeguard our conclusions by a distinct consideration of each form of cardiac disorder.

Let us consider Rothberger and Winterberg's results in some detail. In 1911 a paper, which has commanded widespread attention, appeared under their names.[5] On page 353 of this communication stands the conclusion that: "This conjecture obtains in the results of our experiments a far-reaching confirmation. For, despite many exceptions, the combined stimulation of right vagus and left accelerans gives, with unmistakable frequency, left-sided ventricular extrasystoles which interrupt the vagus standstill." As an instance, they cite Fig. 3 as an illustration of this important conclusion. The curves of this figure show perfectly clear events. While the sympathetic is being stimulated, right vagus stimulation produces in the first instance slowing of the whole heart, and as the heart slows the ventricle escapes; rhythmic beats, at a rate slower than the original heart-rate, appear in the curves. These beats in the electrocardiograms have the same outlines as extrasystoles from the left ventricle. Now I have already said that extrasystoles usually arise in abnormal heart foci, and amongst other positions of origin is the ventricle. Arising in the ventricles they produce highly abnormal electrocardiograms which depend upon the direction taken by the excitation wave in the heart. Rothberger and Winterberg have fallen into this error; they have taken the abnormal origin of the beats as an evidence of their extrasystolic nature; but this reasoning is not justified by our knowledge, beats not only of the extrasystolic but also of the physiological order may be associated with the same form of electrocardiogram, for the two forms of heart contraction may come from the same heart focus and the courses of the excitation waves may be the same through the muscle. The conditions of Rothberger and Winterberg's experiments were precisely those which would enhance a physiological rhythm in the ventricle hitherto dormant, and the vagal slowing would permit its appearance. The curves in question are unmistakably examples of an escape of this kind; they contain no evidence of extrasystolic rhythms. And if we look through the figures of this paper we can find, with two possible exceptions, no substantiation of their conclusions. The possible exceptions are two examples of fibrillation of the ventricles stated to be the result of similar nerve stimulations. Now ventricular like auricular fibrillation is a phenomenon which is not of infrequent occurrence in animals under experimental conditions. It is not the first occasion on which one or other disorder is reported to have followed interference with the vagus[6]; the disorder comes in what appears to be a

[5] Pflüger's Archiv, 1911, cxli., 343.

[6] It is an unfortunate fact that the two curves published as examples by Rothberger and Winterberg are almost the only ones of their series in which the automatic signal of vagus stimulation is lacking.

most capricious fashion. It was seen on three occasions in the 30 experiments upon which their paper is based. I put it to you that if there was evidence of extrasystolic beats—allowing that fibrillation is of this nature—on only three occasions in 30 experiments confined to interference with the heart nerves, then we must inevitably conclude that the vagal stimulation, so often repeated without success, was no more than one, and probably by no means the chief causative factor. If we are to conclude that nervous impulses, acting alone, are capable of producing extrasystolic beats, we require far stronger evidence than this. An experiment must be devised in which by such interference the result is invariable or almost invariable; and evidence of this kind is necessary, for we now know the causes of extrasystole are of a most elusive kind, and creep into experiments unseen and unheeded. The isolated examples of fibrillation in Rothberger and Winterberg's experiments are to be ascribed largely, if not entirely, I think, to such factors.

We pass finally to a discussion of observations of a somewhat different kind. I refer to the later papers of Rothberger and Winterberg and to those of Levy.[7] The former writers have shown that stimulation of the sympathetic nerves is followed by beats of an extrasystolic nature when the heart has been previously poisoned by barium chloride. Levy has shown that sympathetic stimulation is followed by the appearance of beats of the same kind, or by their increased formation, when the heart is poisoned with small doses of chloroform. The evidence for both these statements is, I think, conclusive.[8]

It has to be acknowledged that the nerves of the heart may play a very significant rôle in producing the disorders of mechanism considered. Can we define this rôle more distinctly? There are, so it seems to me, two questions to which answers may be returned at the present time. Has it been shown that abnormal nerve impulses playing upon a normal heart may be responsible for extrasystoles or the higher types of disorders? To this question we may return a negative answer. May nervous impulses playing upon a supersensitive or irritable organ provoke these curious contractions? To this question we may return an answer in the affirmative.

It is a striking fact that both in the experiments of Rothberger and Winterberg with barium chloride, and in those of Levy with chloroform, before the sympathetic is stimulated, conditions predisposing to extrasystole are known to be affecting the heart. Given such conditions, the sympathetic influences enhance the pre-existing tendency, and the disturbance or an exaggerated disturbance follows. So far, and no further, are we warranted in carrying our conclusions to-day.

[7] Rothberger and Winterberg: Zentralblatt für Physiologie, Band xxv.; also Pflüger's Archiv, 1911, cxlii., 46; Levy and Lewis: Heart, 1911-12, iii., 99; Levy: Heart, 1912-13, iv., 319; and 1913-14, v., 299.

[8] Many of Rothberger and Winterberg's curves are open to the objections raised in criticisms of the earlier paper, but in some of their published figures the new beats have all the features of extrasystoles, and must, I think, be accepted as such.

OXFORD OPHTHALMOLOGICAL CONGRESS.—Mr. Sydney Stephenson has been elected master of the Congress, vice Mr. R. W. Doyne, nominated as past-master. Mr. P. E. H. Adams (Oxford) has become deputy master, and Mr. A. Bernard Cridland (Wolverhampton) honorary secretary. Colonel R. H. Elliot, I M S, has been elected a member of the council.

# OBSERVATIONS UPON 31,000 CONSECUTIVE MEDICAL EXAMINATIONS,

## CONDUCTED CHIEFLY FOR THE PUBLIC SERVICE.

BY SIR JOHN COLLIE, M.D. ABERD., J.P.,

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THE following observations are based upon 31,000 consecutive medical examinations made on behalf of two large public bodies and various insurance companies and solicitors during the last nine years. The figures are arranged in the following groups:—

| | Cases. | Examinations. |
|---|---|---|
| I. Entrance examinations as to physical fitness ... ... ... | 12,189 | 13,526 |
| II. Accidents amongst employees | 3,667 | 6,858 |
| III. Sickness amongst employees | 3,499 | 7,391 |
| IV. Medico-legal cases ... ... ... | 2,216 | 3,396 |
| | 21,571 | 31,171 |

### I.—*Entrance Examinations as to Physical Fitness.*

*Results of Medical Examination as to Physical Fitness of Candidates for Entrance into the Public Service.*

| | | |
|---|---|---|
| Passed at first examination ... ... ... ... ... ... | 9694 | |
| Passed after postponement ... ... ... ... ... ... | 990 | |
| Passed temporarily, subject to re-examination yet to take place ... ... ... ... ... ... ... ... | 82 | 10,766 |
| Rejected at first examination, one disability only... | 1037 | |
| Rejected at first examination, more than one disability ... ... ... ... ... ... ... ... ... ... | 149 | |
| Rejected after postponement... ... ... ... ... ... | 237 | 1,423 |
| (Representing 13,526 examinations.) | | 12,189 |

*Proportion of rejections.*—A comparison of the figures contained in this table with those presented in 1911 will show that the proportion of candidates for the public service I have had to reject has considerably increased. Up to 1911 the percentage of rejections was 9·9 per cent., but in the past three years I have found it necessary to refuse 14·4 per cent. A large part of this increase is due to the number rejected on the ground of dental caries. It seems incredible that such a large number of people are ready to forfeit their chance of employment rather than undergo the treatment necessary to put their mouths into a proper condition.

*Summary of Causes of Rejection of 1,423 cases.*

| | | | |
|---|---|---|---|
| Defective visual acuity ... ... | 479 | Hydrocele ... ... ... ... ... | 8 |
| Dental caries ... ... ... ... | 254 | Refused physical examination | 7 |
| Heart disease ... ... ... ... | 110 | Obesity ... ... ... ... ... ... | 6 |
| Albumin ... ... ... ... ... | 109 | Goitre ... ... ... ... ... ... | 6 |
| Colour blind ... ... ... ... | 103 | Hæmorrhoids ... ... ... ... | 5 |
| Hernia ... ... ... ... ... ... | 82 | Anæmia ... ... ... ... ... ... | 5 |
| Varicose veins ... ... ... ... | 54 | Alcohol ... ... ... ... ... ... | 4 |
| Disease of lungs ... ... ... | 25 | Gonorrhœa ... ... ... ... ... | 4 |
| Poor physique ... ... ... ... | 22 | Mentally defective ... ... ... | 4 |
| Syphilis ... ... ... ... ... | 18 | Tubercular spine ... ... ... | 3 |
| Various skin diseases ... ... | 16 | Deformity ... ... ... ... ... | 3 |
| Diabetes ... ... ... ... ... | 13 | Urethritis ... ... ... ... ... | 3 |
| Varicocele ... ... ... ... ... | 11 | Fainted at vaccination ... ... | 3 |
| Debility ... ... ... ... ... | 10 | Various conditions of infrequent incidence ... ... ... | 48 |
| Deafness ... ... ... ... ... | 8 | | |

*Varying standards.*—The relative proportions of most of the defects which have led to rejection are very fairly maintained. Some of the variations may be accounted for by the differing standards of tests which have to be applied, having regard to the diverse natures of the employments proposed. Thus drivers of tramcars and fireman must have perfect vision, but there is no reason why those seeking employment in a clerical capacity should not be passed, even though possessing defective vision, provided suitable corrective lenses are procured.

*Desirability of medical examination prior to employment.*—Having regard to the large percentage

of rejections I think I am justified in again urging the desirability of instituting a system of medical examination prior to employment. I do not advocate the employment of only those who are physically perfect (the army of unemployed would be of enormous dimensions if that standard came into operation), but I feel that in dealing with subsequent injuries or illnesses the advantage to be derived from a knowledge of pre-existing defects would be enormous, and, in addition, many men would not be permitted to undertake work the performance of which would be inviting disaster to themselves and others in their particular physical condition. Men with heart disease are often employed to perform heavy work because of their apparently robust condition, but a medical examination would disclose their total unfitness for anything of the kind. The big rise in the number rejected on account of poor physique from 4 to 22 need cause no alarm as being evidence of physical deterioration in the race, because in such a body as the Fire Brigade a very high standard of physique is demanded.

*Examination of urine.* (*a*) *Sugar.*—I have confirmed by further observation the opinion I expressed in 1911, that the indications of glycosuria (high specific gravity and crystals of glucosazone) so often found upon a first examination of urine are frequently merely temporary, and are the result of the mental anxiety and physical stress which so many candidates experience when appearing before the committee of a public authority and undergoing a medical examination with a view to securing an appointment. Although glycosuric urine is often indicative of the early stage of true diabetes, and the urine in these cases may respond to all the tests demonstrating diabetes, I believe the condition may well be of a temporary character and should not necessarily lead to rejection. Even if the diabetic condition is undoubted, the nature of the employment proposed may justify a pass. I remember the case of a professional man, aged 58, who had diabetes, but as his services were only required for some eight or ten years I ventured to take the risk, and after stating the facts quite frankly to his future employer advised his acceptance. He duly served his time, and died two years after leaving the service.

(*b*) *Albumin.*—The examination of considerably over 5000 further specimens of urine strengthens my opinion that we have not by any means reached the limit of the knowledge to be obtained by this procedure. No candidates for the public or any service should be refused admission merely because a first examination of the urine discloses the presence of albumin. Even if albumin is persistently present (it is frequently only temporarily so) it is not fair, especially to young candidates, finally to reject them until the centrifugalised deposit has been microscopically examined. In a large number of cases a second specimen of urine, although passed but a few minutes after the first, will show no trace of albumin, the probability being that the first reaction was produced by nuclear albumin obtained from a deposit lying in the urethra, the result, may be, of an old gleet.

Physiological or adolescent albuminuria certainly does not point to organic change in the kidneys. In the vast majority of specimens of urine passed by people under 22 or 23 years of age the presence of albumin will be found to be a temporary condition. My friend, Sir James Goodhart, tells me that he finds that when albuminuria is merely functional cold acetic acid when added to the urine causes it to assume a cloudy opalescent appearance. He adds: "I am sure this is a really valuable constructive test, for this is hardly ever found with nephritic albumin." In order to determine whether the albuminuria is or is not due to definite nephritic mischief the deposit should be subjected to microscopic examination at stated intervals on several consecutive days. Hyaline casts alone do not indicate disease.

*Dental caries.*—During the past three years I have paid special attention to the question of pyorrhœa alveolaris and the absence of healthy teeth. Many of the septic conditions—e.g., rheumatoid arthritis, rheumatism—the origin of which until recently has been sought in vain, will be found to be due to the slow, chronic poisoning brought about by the condition in which the working classes keep their teeth. A comparatively slight degree of traumatism is increased, and the period of convalescence unduly prolonged by the presence of oral sepsis; on several occasions the removal of decayed teeth during the period of disablement following an accident has facilitated recovery. I think, therefore, that when examining for admission into the public service special care should be taken that the teeth of a candidate are in good condition, so that he may not only digest his food and maintain his health, but that in the event of an accident recovery may not be delayed by the impetus traumatism seems to give to general septic absorption from pyorrhœa alveolaris. I have been much struck by the unwillingness of candidates to have decayed teeth extracted, and find that the shorter the period allowed them for extraction the more likely are they to have extractions performed. I now make it a condition of acceptance into the service that the mouth shall be in a healthy condition.

### II. AND III.—*Examination of Employees for Accidents and Sickness.*

In my former report I stated that employees who have been on the sick list for 28 days from any cause are sent to me for examination and report, and that this was found to be a considerable check upon the temptation to malinger or unduly to prolong illness after accidents or sickness. Further, I pointed out that the 28-day rule, though by no means equal to systematic re-examination at set intervals, certainly enables me to keep an eye to some extent generally upon the health of the staff. For instance, a tramway driver was discovered to be suffering from aortic regurgitation and a school attendance officer from locomotor ataxia when they presented themselves on the expiration of 28 days' sick leave on account of a slight injury in the first case and a sprained ankle in the second. Recently this rule has been modified in certain sections of my work, accident cases being submitted as soon as practicable after their occurrence, without waiting for 28 days to expire.

*Results of Examination of Employees as Regards Fitness for Work.*

| | Total accident and sickness cases. (7166). | Accident cases only. (3667). | Sickness cases only. (3499). |
|---|---|---|---|
| 1. Cases certified fit for duty on first examination ... ... ... ... ... ... | 20·2% | 23·3% | 17·7% |
| 2. Cases requiring further leave from the date of the first examination ... | 60·8% | 64·4% | 56·8% |
| 3. Cases permanently unfit after single or final examination; also including deaths immediately under my notice... ... ... ... ... | 13·3% | 4·3% | 23·9% |
| 4. Undoubted malingerers ... ... ... | 5·5% | 8·0% | 2·6% |

*Classification of 3667 Cases of Accidents.* (Representing 6858 examinations.)

| | | |
|---|---|---|
| Contusions of limbs | 748 = 20·4 | per cent. |
| Wounds (various) of limbs | 617 = 16·8 | ,, |
| Fractures of bones | 341 = 9·3 | ,, |
| Sprains of limbs | 281 = 7·7 | ,, |
| Hernia | 231 = 6·3 | ,, |
| Back, injuries of | 216 = 5·9 | ,, |
| Head injuries and traumatic neurasthenia | 204 = 5·6 | ,, |
| Injuries to the eye | 190 = 5·2 | ,, |
| Synovitis of knee | 124 = 3·4 | ,, |
| Burns | 85 = 2·3 | ,, |
| Injuries of chest and neck | 57 = 1·6 | ,, |
| Injuries of abdomen, pelvis, and organs of generation | 46 = 1·2 | ,, |
| Dislocations of limbs | 46 = 1·2 | ,, |
| Amputation of fingers for traumatism | 32 = 0·9 | ,, |
| Displaced semilunar cartilage of knee | 30 = 0·8 | ,, |
| Injuries of ear and mouth | 22 = 0·6 | ,, |
| Unclassified | 104 = 2·8 | ,, |
| Undoubted malingerers | 293 = 8·0 | ,, |

**There is still a tendency to make the happening of a slight injury the pretext for obtaining the utmost amount of compensation. It is obvious that, if my experience is not singular, a state of things is arising that calls for careful attention.**

*Classification of 3499 Cases of Sickness, showing Proportion of Certain Diseases of More Frequent Incidence.* (Representing 7391 examinations.)

*Infective Diseases, 968 cases = 27·7 per cent.*

| | |
|---|---|
| Pulmonary and laryngeal tuberculosis | 230 |
| Influenza | 170 |
| Rheumatism | 170 |
| Pneumonia | 95 |
| Rheumatic fever | 72 |
| Enteric fever | 53 |
| Primary syphilis (secondary syphilitic conditions are classified under systems particularly affected) | 31 |
| Rheumatoid arthritis | 21 |
| Tonsillitis | 18 |
| Empyema | 15 |
| Rheumatic gout | 15 |
| Scarlet fever | 15 |
| Diphtheria | 14 |
| Pulmonary tuberculosis suspected | 11 |
| Laryngitis, non-tubercular | 6 |
| Mumps | 5 |
| Actinomycosis | 1 |
| Various conditions of infrequent incidence | 26 |

*Diseases of the Nervous System, 603 cases = 17·2 per cent.*

| | |
|---|---|
| Neurasthenia | 221 |
| Insanity and mental depression | 83 |
| Sciatica | 53 |
| General paralysis of the insane and locomotor ataxia | 51 |
| Cerebral hæmorrhage | 37 |
| Epilepsy | 36 |
| General mental deterioration | 13 |
| Disseminated sclerosis | 10 |
| Paralysis agitans | 7 |
| Heatstroke and sunstroke (not accident under the Workmen's Compensation Act) | 7 |
| Writer's cramp | 6 |
| Various conditions of infrequent incidence | 78 |

*Diseases of the Digestive System, 341 cases = 9·8 per cent.*

| | |
|---|---|
| Gastric conditions | 106 |
| Appendicitis | 63 |
| Diseases of the rectum | 42 |
| Hæmorrhoids | 39 |
| Diseases of the liver | 32 |
| Duodenal ulcer | 18 |
| Abscess of jaw | 5 |
| Various conditions of infrequent incidence | 36 |

*Diseases of the Circulatory System, 255 cases = 7·3 per cent.*

| | |
|---|---|
| Valvular disease of the heart | 136 |
| Varicose veins and ulcers, thrombosis and phlebitis | 93 |
| Fainting on duty | 11 |
| Arterio-sclerosis | 4 |
| Various conditions of infrequent incidence | 11 |

*General Diseases, 243 cases = 7·0 per cent.*

| | |
|---|---|
| Debility | 71 |
| Premature senility | 61 |
| Anæmia | 42 |
| Gout | 35 |
| Obesity | 9 |
| Boils | 7 |
| Various conditions of infrequent incidence | 18 |

*Diseases of the Respiratory System, 236 cases = 6·8 per cent.*

| | |
|---|---|
| Bronchitis and bronchial catarrh | 125 |
| Pleurisy | 47 |
| Asthma | 45 |
| Various conditions of infrequent incidence | 19 |

*Diseases of the Organs of Locomotion, 119 cases = 3·4 per cent.*

| | |
|---|---|
| Lumbago | 38 |
| Ulcers of leg and foot | 20 |
| Bursitis | 7 |
| Bunion | 6 |
| Tubercular synovitis of knee | 3 |
| Tubercular abscess of foot | 1 |
| Various conditions of infrequent incidence | 44 |

*Diseases of the Urinary System, 106 cases = 3·0 per cent.*

| | |
|---|---|
| Nephritis | 61 |
| Diabetes | 17 |
| Stone in kidney or bladder | 12 |
| Cystitis | 4 |
| Various conditions of infrequent incidence | 12 |

*Diseases of the Eye, 105 cases = 3·0 per cent.*

| | |
|---|---|
| Defective vision (various causes) | 36 |
| Conjunctivitis | 13 |
| Iritis | 11 |
| Cataract | 10 |
| Choroiditis | 6 |
| Ophthalmia | 4 |
| Glaucoma | 3 |
| Various conditions of infrequent incidence | 22 |

*Diseases of the Skin, 101 cases = 2·9 per cent.*

| | |
|---|---|
| Eczema | 28 |
| Sycosis | 11 |
| Erysipelas | 9 |
| Ringworm | 8 |
| Various conditions of infrequent incidence | 45 |

*Morbid Conditions Incident to Various Parts, 92 cases = 2·6 per cent.*

| | |
|---|---|
| Cancer | 62 |
| Various conditions of infrequent incidence | 30 |

*Toxæmias, 80 cases = 2·0 per cent.*

| | |
|---|---|
| Alcoholism | 75 |
| Various conditions of infrequent incidence | 5 |

*Diseases of the Generative System, male and female, 64 cases = 1·8 per cent.* (18 of these cases venereal.)

*Diseases of the Ear, 40 cases = 1·2 per cent.*

| | |
|---|---|
| Deafness due to various causes | 16 |
| Middle-ear suppuration | 8 |
| Mastoid abscess | 5 |
| Various conditions of infrequent incidence | 11 |

*Diseases of the Lymphatic System, 37 cases = 1·1 per cent.*

| | |
|---|---|
| Tubercular glands | 11 |
| Inflamed glands, not tubercular | 10 |
| Myxœdema | 1 |
| Various conditions of infrequent incidence | 15 |

*Diseases of the Nose, 19 cases = 0·6 per cent.*

*Undoubted malingerers, 91 cases = 2·6 per cent.*

*Alcoholism.*—I should like specially to refer to the cases of alcoholism, many of which are frequently submitted to me for report. In these cases the temptation is to consider the service and ignore the individual. During the past nine years there have been many cases of undoubted alcoholism; none of these have been dismissed peremptorily. I have taken a special interest in each case, and tried to gain the confidence of and assist those who have promised to coöperate with me in helping them to abstain totally from alcohol. In many instances I have been able to bring about total abstinence and restore self-respect. It is difficult to be accurate in dealing with this question; failure is so common, and deceit and falsehood (the consequences of a depraved mental condition) are almost invariably present. Close touch with the heads of departments has, however, afforded me special facilities. The following are the results to date of 43 consecutive cases coming under my care since 1908:—

| | |
|---|---|
| *No relapse.* Quite satisfactory. Total abstainer one year or over | 15 |
| Total abstainer under one year | 5 |
| *Relapsed and recovered.* Moderately satisfactory. Either total abstainer for a period under 12 months from relapse, or only semi-abstainer | 9 |
| *Relapsed.* Unsatisfactory. Died or lost sight of | 14 |

As statistics go, I think it will be found that these are unusually satisfactory results, which may

perhaps be explained by the fact that the men concerned are fully cognisant that their irregularity has been reported to me as medical examiner, and that practically I have the final say as to their retention in the service. Hitherto in every case I have taken full advantage of my somewhat autocratic position, and I find it of much assistance in compelling the exercise of that will power which is so essential to recovery from this disease, but which, from the nature of the complaint, is so difficult to bring into operation. A judicious exhibition, often even a parade of despotic authority, combined with a personal and sympathetic interest (in most cases entailing frequent unofficial interviews), has brought about results which are the best, I believe, that have been published. They are so gratifying that they may well be an incentive to others similarly placed.

*Venereal disease and its sequelæ.*—Much attention is at present being paid to the subject of venereal disease, and some interest may be found in the following particulars of the cases which have come under my observation:—

A. In the 12,189 entrance cases—

| | |
|---|---|
| Primary syphilis | 23 cases. |
| Gonorrhœa | 5 ,, |
| Urethritis | 4 ,, |
| Locomotor ataxia | 1 ,, |
| Urethral chancre | 1 ,, |
| Syphilitic iritis | 1 ,, |
| Gleet | 1 ,, |
| | 36 (= 0·29%). |

B. Amongst the 3667 accident cases there were 2 cases of locomotor ataxia accelerated by traumatism. There was also 1 case of gonorrhœa.

C. In the 3499 cases of sickness:—

| | |
|---|---|
| Primary syphilis | 31 cases. |
| Gonorrhœa (including orchitis, cystitis, urethritis, and epididymitis) | 19 ,, |
| Definite specific history in the following:— | |
| Arterio-sclerosis, syphilitic | 4 cases. |
| Aneurysm ,, | 9 ,, |
| Glossitis ,, | 1 ,, |
| Cataract ,, | 1 ,, |
| Choroiditis ,, | 2 ,, |
| Ptosis ,, | 1 ,, |
| Laryngitis ,, | 3 ,, |
| Progressive muscular atrophy, syphilitic | 1 ,, |
| Tonsillitis, syphilitic | 1 ,, |
| Disease of ankle, syphilitic | 1 ,, |
| Ulcer of ankle ,, | 2 ,, |
| Gumma of thigh ,, | 2 ,, |
| Ulcer of knee ,, | 1 ,, |
| Synovitis of knee ,, | 1 ,, |
| Locomotor ataxia and general paralysis of the insane | 51 ,, |
| Gumma of brain, syphilitic | 2 ,, |
| Mental aberration ,, | 1 ,, |
| Skin disease ,, | 3 ,, |
| Paralysis due to syphilis (Also 1 case doubtful syphilitic.) | 1 ,, |
| Cerebral hæmorrhage, syphilitic (Out of a total of 29 cases.) | 8 ,, |
| Epilepsy, syphilitic (Also 2 cases doubtful syphilitic, out of a total of 36 cases.) | 7 ,, |
| Chorea (one case doubtful syphilitic) | — |
| Iritis, syphilitic (Also 4 cases doubtful syphilitic, out of a total of 11.) | 2 ,, |
| Disseminated sclerosis, syphilitic (Also 1 case doubtful syphilitic out of a total of 10.) | 1 ,, |
| | 156 (= 4·4%). |

D. Of the 2216 medico-legal cases there was definite indication of venereal disease in 19 cases, and strong suspicion of it in at least 6 others.

### IV.—*Medico-legal Cases.*

An analysis of the 2216 medico-legal cases in view of their special character would serve no very useful purpose, so I content myself by remarking that I have not discovered anything in them to vitiate any of the deductions I have drawn from my other examinations.

Porchester-terrace, W.

## ON A METHOD OF MAKING CULTIVATION MEDIA WITHOUT PREPARED PEPTONES, AND ON A PEPTONE-FREE MEDIUM FOR GROWING TUBERCLE BACILLI.

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IN the past, owing to the ease with which various chemical products could be obtained, bacteriologists have been satisfied to follow blindly a ritual of media-making. With the outbreak of the war, however, the supply of one important ingredient, Witte's peptone, almost universally used in this ritual, was suddenly cut off, and it became imperative—especially in this laboratory, where very large quantities of culture media are being used for the preparation of vaccines for our Army and Navy, and also for the French Army—to look forward and prepare for the time when Witte's peptone was no longer available. The preparation of media without the addition of prepared peptones has had to be provided for in the past; for instance, Haffkine was faced by a similar problem when he undertook to make plague vaccine for the natives of India. Since peptone, being derived from pigs, is abhorrent to a Mohammedan, and the use of beef in any form equally so to a Hindu, Haffkine overcame both these difficulties by autoclaving goat's flesh with hydrochloric acid, and obtained a satisfactory medium.

The method of media-making described below gives constantly a very efficient medium, and has proved in my hands more simple and easier than Haffkine's method. Fresh bullocks' hearts having been obtained, the fat and large vessels are removed. The meat is then finely minced, and to the mince thus obtained from an average-sized heart four litres of water are added. This mixture, after being thoroughly stirred and rendered faintly alkaline to litmus, is heated to between 70° and 80° C. After cooling to 45° C. 1 per cent. of trypsin solution (40 c.c. to the four litres) is added, the preparation of trypsin used being Allen and Hanbury's liquor trypsin co. This, in view of the fact that the preliminary heating has destroyed the antitryptic power of the meat juices, rapidly breaks down some of the albumins present. The trypsin is allowed to act for from two to three hours, the temperature being kept raised by placing the vessel containing the mixture in an incubator at 37° C. The next process is to precipitate the unaltered albumins and to render the broth easily filtrable, and with this in view the mixture is rendered slightly acid with acetic acid and brought to the boil. The coagulated proteids and other solid matters can now be almost entirely separated by straining through a bag of close-meshed muslin.

After rendering the fluid thus obtained alkaline to litmus, a small quantity of calcium chloride (about 0·5 grm. to the 4 litres) and 0·25 per cent. of sodium chloride are added, and the resulting broth is then autoclaved for an hour at 115° C. so as to precipitate thoroughly any phosphates that may be in solution, filtered through filter paper, and then tubed and sterilised as in the case of ordinary peptone broth. In making agar the agar powder is best added before the phosphates are precipitated, as the prolonged heating brings the agar thoroughly into solution.

This medium has the following advantages over that made from beef extracts and prepared peptones:—1. The cost is very much less. 2. The growth of the bacteria both on the solid and liquid forms has proved to be very much more abundant than that obtained on the media usually employed; for instance, it has been found that four times more typhoid bacilli were obtained from agar bottles in a given time containing medium thus made than in the case of medium made from beef extract and Witte's peptone.

A possible explanation of the almost phenomenal growths obtained on this medium is that, in addition to peptones and albumoses, of which Witte's peptone is composed, it contains products, such as the amido-acids, which represent a further breaking down of the albuminous molecule, products which are very likely to be easily assimilated by bacteria and built up again by them into their distinctive protoplasm. The only disadvantage of the medium is the longer time and greater trouble that have to be taken in its preparation.

*A Peptone-free Medium for the Cultivation of the Tubercle Bacillus.*

The medium, the preparation of which is described below, was the outcome of the following observations. In the first place, it was noticed in cultivating tubercle bacilli on glycerine potato, that frequently an abundant growth of the tubercle bacillus occurred on the surface of the glycerinated salt solution which was contained in the lower part of the tube. Attempts were therefore made to make a broth from potatoes which would give a good growth of such bacilli. On such a broth good growths were frequently obtained, but from time to time an individual brew gave but unsatisfactory results. These unsatisfactory results seemed to rest with some quality of the potatoes rather than with any variation of alkalinity, &c. Noting, however, that the tubercle bacillus seemed readily to assimilate even coagulated albumin, it was determined to try the effect of adding some form of soluble albumin, unaffected by the temperature necessary for the sterilisation of the broth, and with this in view various casein preparations on the market, sold under patent names, were tried in order to ascertain if these, when added to the extract of potatoes, would ensure a medium giving constant and abundant growth of the tubercle bacilli. The preparation giving the most satisfactory results was that sold under the name of "Plasmon."

The medium is made in the following manner. Potatoes are skinned, then passed through a mincing machine, and the resulting pulp is weighed. To each pound one litre of water is added and allowed to extract over night at room temperature. The solid matter is now removed by straining through muslin, and the resulting fluid is heated in the autoclave to 115° C. A sufficient quantity of acetic acid to render the hot fluid faintly acid is next added, which causes the suspended matter, starches, albumins, &c., to agglutinate into large masses, rendering the passage of the fluid through filter paper rapid and easy. The fluid thus obtained is rendered faintly alkaline to litmus, and 0·25 per cent. of glucose, .5 per cent. of glycerine, and 200 cubic centimetres per litre of a 2 per cent. slightly alkaline solution of plasmon are added. On the addition of a white of an egg to each litre a further heating to 100°C. clears the fluid, and on filtration gives a clear brown-coloured broth, which is then distributed in flasks and sterilised by steaming for 30 minutes on three successive days. Agar medium can also be made from this broth, which gives an abundant growth of human tubercle bacilli having but very slight adherence to the agar surface, and in consequence easily lifted off with a coiled platinum wire, and floated on to the surface of broth when it is desirable to grow the organism on fluid media.

## THE TRANSPORT OF THE WOUNDED IN WAR.[1]

BY EMM. KONDOLEON, M.D.,
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BEFORE dealing with my chief subject I will shortly allude to two special points influencing the surgery during the campaign under consideration.

*Shrapnel Wounds.—Indications for Amputation.*

The first point concerns the numerous wounds inflicted by shrapnel, which I had the opportunity of observing at Strumnitza in the beginning of the second Balkan war. Near this town an engagement took place about the end of June, 1913, between our infantry and the Bulgarian artillery, which had been accidentally isolated. Almost all the wounds of our soldiers were caused by shrapnel, so that of 200 wounded, who were removed to the hospital of Strumnitza, only two had been wounded by infantry rifle fire and there happened at this time to be no other wounded. Such a concentration of patients wounded only by shrapnel therefore gave us an exceptional opportunity of paying special attention to this sort of injury. Their serious nature, as compared with the wounds inflicted by the bullets of the infantry, is generally recognised. We have observed the severe injuries of the soft parts, the numerous metallic fragments in the brain, and the comminution of the long bones. Infection often complicates this sort of wound.

Dangerous infection is, as a rule, coincident with severe injuries, in which case energetic measures should be taken, but great attention should also be paid to the ordinary discharge of pus from a shrapnel wound, because it often ends in cellulitis. We can take as typical the cellulitis which occurs in consequence of a penetrating wound of the soft tissues. We might be able to prevent this complication if we could deal adequately with the originating cause, which in our opinion is the fact that no distinction whatever is made in military surgery between the dressings for the wounds caused by infantry bullets and those caused by shrapnel. The first we dress by applying tincture of iodine, and the second in the same way. This dressing may practically be suitable for the small infantry bullet wounds, but a shrapnel wound, which is usually infected from the very beginning, has always in its course small gaps surrounded by dead tissues. It is obvious that shaving, cleaning, and the use of tincture of iodine are not sufficient to prevent possible complications under such conditions. Whenever we notice any discharge of pus from the openings we must make adequate incisions and drain the wound. The realisation of this distinction in the dressing of infantry bullet wounds and shrapnel wounds is, no doubt, difficult when many wounded are brought simultaneously and the

[1] An address delivered before the Medical Society of Athens.

temporary shelters are very crowded. Under these circumstances we can only divide the wounds into severe injuries, which require much time and care in treatment, and slight cases, which are removed elsewhere as soon as possible. In every other instance this distinction is, I think, practical and necessary, as it prevents serious complications from arising in wounds apparently slight.

The second point, which I wish also to deal with briefly, concerns the indication for amputation in the surgical stations which are working near the line of action. Modern surgery aims at being conservative, but I fear that the exaggeration of this tendency is not profitable to the wounded, whose chief desire is that their lives may be saved. I am referring to those cases in which a wounded limb cannot be preserved and the life of the patient is in immediate danger from the progress of sepsis. We all recognise the necessity of amputation in such conditions, and yet we often hesitate, either postponing the operation or sending the wounded to the next surgical station, thereby losing the best moment for the operation, which can be performed anywhere and by any medical man, even though he may not claim to be a surgical specialist. If this view of early operation be generally accepted we shall no longer see wounded men arriving from other stations at too late a stage for amputation because of the fatal progress of sepsis, which excludes any hope for a successful performance of the operation.

*Transport of Wounded: Injuries of Spinal Cord and of Skull.*

I now come to my chief subject, how to transport the wounded from the temporary stations to the permanent surgical hospitals, the latter being usually situated in large towns. The importance of this subject becomes obvious when one considers the numerous difficulties connected with it. Of course, I do not mean to criticise the methods of the army medical department, my intention being merely to deal with the subject of transport from a purely scientific point of view; neither do I propose to speak of transport from the first line of action—through the ambulance—to the temporary hospitals, as this transport is not amenable to fixed rules, but is carried out in any possible way near at hand. But when the transport must be continued from the temporary stations to the permanent hospitals in the towns there is certainly a need for a more definite system.

First, I have to mention the cases which require immediate surgical intervention. Wounded men belonging to this category are often removed without being operated upon. But all urgent cases must be operated upon in the temporary hospitals, even under unfavourable conditions. The fact of many operations being performed with successful results under canvas proves the possibility of the extension of this measure. With regard to the wounded who do not require immediate operative treatment, such as those having fracture of the spine, with injury of the spinal cord, and consequent paraplegia, we think that they should be the first to be removed. Not one of such patients, as far as I could see, sustained any shock during removal, though it was sometimes carried out under lamentable conditions.

There are two reasons in support of the view that these wounded should be removed first; one is that they are not subject to shock, being in a condition similar to that seen in dogs whose spinal cord has been cut across, for these "spinal dogs" show great resistance to shock. If we observe a wounded man during conveyance over a great distance, presuming that he has a high fracture of the spine with complete paraplegia, we shall be impressed by his regular pulse-rate, quiet expression, and good general condition, while the contrary is observed in severe injuries of the abdomen or the limbs. This resistance to shock on the part of men wounded in the spine enables them to be removed without any further delay. The second reason for immediate transport is clear, for the health of these patients is soon broken, bedsores very often appear, infection of the bladder from frequently passing the catheter is inevitable, and if they remain in the temporary hospitals their condition becomes miserable, whereas if they had been removed at the very beginning to the central hospitals in the towns they would be placed under better treatment.

The removal of those who have penetrating wounds of the skull presents more difficulties. Those who are still under the influence of shock must, of course, be kept on the spot until their condition improves sufficiently to permit further transport. Those who have foreign bodies in the brain, with symptoms of pressure, must be immediately operated upon in the temporary station. Mere enlargement of the existing opening will often be all that is required for the removal of splinters and the relief of pressure. There is no reason for making a systematic search for a bullet lodged in the brain. Patients who require to be trephined would better be previously removed to the permanent hospitals, because if they are operated upon in the temporary station their subsequent removal would be very dangerous in the event of the place having to be evacuated.

*Wounds of Thorax and Abdomen; Fractures of Extremities.*

There still remain the cases which do not require any intervention, and among them those which are considered to be the most serious should be the last to be removed. As regards penetrating wounds of the thorax, I formed the impression that too much apprehension on our part rendered their transport much slower than was really necessary. In a great number of such cases the wounded were transported from the line of action to the next stations in a quite primitive way, without any bad consequence. In saying this I do not suggest that the prophylactic measures of the first few days may be omitted, but I think that men wounded in the thorax may be removed after a few days' rest. Persistent hæmoptysis, which makes possible a more severe hæmorrhage, is regarded as a contra-indication, but I do not think that blood-stained sputum is a contra-indication in itself. It should also be considered that the general condition of these patients is very favourable—when no such complication as hæmothorax or empyema appears—so that they themselves insist upon being immediately transported to the towns. For penetrating wounds of the abdomen the regulation precautions are necessary. Men thus wounded must not be removed before the lapse of a week from the day of injury. We often notice as a result of the confusion prevailing in the use of the term "penetrating" that many superficial wounds of the abdominal walls are registered as penetrating. The distinction between these two categories is easy, requiring only a careful examination. When

in really penetrating wounds there is no sign of peritonitis after the first week the patients can be removed without danger. In about ten days we can also remove some slight cases of localised peritonitis, provided there are proper vehicles. Two of these cases have been transported from Cresna to Salonica without further complication.

The transport of patients suffering from complicated fractures of the extremities presents many difficulties, especially when the wounds are infected. In aseptic cases immobilisation with plaster bandages which have openings corresponding to the wound is convenient, but in infected cases with abundant discharge of pus requiring frequent dressing the plaster cannot be used, because it quickly becomes foul and has to be taken off in the subsequent stations, thereby impeding the whole sanitary service. Immobilisation with the ordinary wire leg support is always imperfect, and when possible the plaster must be preferred to it. In extraordinary circumstances, where there is no special material for the dressing of fractures, improvised immobilisation, the methods for which must be taught systematically in time of peace, becomes necessary.

Omitting the slight wounds, we may propose the following order as a general scheme of transport: Fractures of the spine must be removed first, fractures of the extremities in the second place, fractures of the skull in the third place, wounds of the thorax fourth, and penetrating wounds of the abdomen last of all.

*Means of Transport.*

An important question in connexion with transport has reference to the means by which it is best carried out. For the transport of wounded men from the temporary stations to the central hospitals travelling by railway is often possible, in addition to which we have bearers, motor-cars, ordinary carts, bullock carts, horses and mules, and the sanitary service wagons. A certain number of patients will be able to walk. Transport by bearers recruited locally would undoubtedly be the best of all, if it could be carried out everywhere and on a large scale. It is very comfortable for the wounded, who can rest quietly, even when being conveyed a long way, but unfortunately only a small number of wounded can be transported in this manner. It is therefore good to reserve this transport for the severest cases, in which an unsteady movement of any kind may prove fatal. Next come the motor-cars, which are the best means of transport where there are carriage roads, because they secure both a quick and safe transport, although with some of them the occupants have to endure severe jolting. One of the ordinary transport motor-cars can easily hold 10 wounded persons, so that if 20 or 30 such motor-cars are at our disposal we can have 200 or 300 wounded conveyed every day to a great distance. We made use of these transport motor-cars from Cresna to Salonica, and it proved quite a success. For purposes of transport ordinary horse carts and bullock carts must be replaced by motor-cars where possible. Transport by mules is useful in mountainous regions and when the immediate evacuation of a station becomes urgent. The ordinary transport carriages of the sanitary service are, as a rule, uncomfortable and a cause of shock. It would be desirable if they could be replaced by transport motor-cars.

Athens.

# A CASE OF ACUTE EXOPHTHALMIC GOITRE SIMULATING ACUTE OBSTRUCTION.

BY G. McCALL SMITH, M.B., CH.B. EDIN., F.R.C.S. EDIN.

THAT quite a number of diseases run such an atypical course that their diagnosis presents the very greatest difficulty is only too well known. Fortunately in many cases, as far as the treatment is concerned, the correct diagnosis is of little moment, but occasionally the reverse of this is the case. Many of us have been faced with the difficulty of diagnosing the gastric crises of early tabes from a ruptured gastric ulcer. Every student is well warned of this pitfall, and rightly. That exophthalmic goitre may closely simulate acute intestinal obstruction is not so well known, however.

To diagnose a case as exophthalmic goitre in which there is no exophthalmos and no goitre seems hardly correct. A more correct designation would be "thyrotoxicosis" or "hyperthyroidism." To the latter the objection may be taken that the name implies a definite knowledge of the pathology of the condition which, in spite of great advances, we do not possess. The name pseudo-exophthalmic goitre is obviously objectionable. The pathology of the glandular condition in true exophthalmic goitre is an increase of the functioning part of the gland. That the toxic symptoms are due to the absorption of this excessive secretion is also probably correct, although absolute proof is still lacking of this. The following case explains the heading of this article.

The patient was a domestic servant aged 23. She had had no previous illnesses of any importance. The present illness had begun about a month before I saw her. She thought that she had got a chill, and returned home and went to bed. There were pains in the abdomen, vomiting, and diarrhœa, and she felt feverish. A medical man was sent for, who kept her in bed and ordered milk diet. The vomiting continued in spite of all treatment. A week later she was removed to a cottage hospital, where she was fed by the bowel. She became greatly emaciated, and remained in this condition for three weeks, steadily vomiting. The diagnosis was one of gastric ulcer. The patient was then seen by me.

On examination she was found to be a pale, emaciated, highly nervous, but obviously very ill young woman, complaining of great pain in her abdomen and continuous vomiting. Her pulse was between 150 and 200, and the temperature was 101° F. On examining her abdomen visible peristalsis was present, passing from the region of the stomach on the left across the abdomen towards the cæcal region. Her bowels had not moved for a week; no flatus was passing. The abdomen was slightly distended; its wall was not abnormally thin. She complained of pain and tenderness on palpation, most marked above the umbilicus and to the left. Nothing could be felt, but her muscles contracted whenever the abdomen was touched, so palpation was difficult. Peristalsis when at rest could be stimulated by stroking the abdomen or by giving the patient a drink of water. Examination of the heart and lungs revealed nothing. The thyroid was not enlarged, and no tremor was present. There were no signs of exophthalmos.

The urine was normal. She had missed one menstrual period, but denied the possibility of pregnancy. Leucocytes 10,000. No differential count was done, but a stained film showed no obvious abnormal blood picture. That night she became much worse; vomiting was now fæcal.

Here was a case of fæcal vomiting, abdominal pain and visible peristalsis, a pulse which was practically uncountable, and a temperature of 101°. At first glance the condition appeared to be one of "acute abdomen," probably acute obstruction high up, and calling urgently for surgical intervention. But in many ways the patient was in an exceedingly bad condition for operation, and certain points about the case made one suspicious of the diagnosis. In the first place, although the patient looked undoubtedly very ill she seemed to have a wonderful amount of strength, she could move about fairly freely in bed, and her expression was not markedly indicative of an acute abdomen. A genuine acute obstruction with a pulse like hers would have been *in extremis*, and she hardly gave one that impression. The question naturally arose, Could the condition of the pulse be accounted for in any other way? Hyperthyroidism suggested itself. Having seen cases of exophthalmic goitre terminate by continuous vomiting I suggested that a thyroid toxin might also account for the vomiting. Working on those grounds I gave as my opinion that the case was one of hyperthyroidism and advocated leaving her alone. For several days the vomiting continued, but although having a fæcal odour it was not so markedly fæcal as on admission.

Suprarenal gland extract and tincture of belladonna were given. The pulse remained much the same, and she was fed with glucose and brandy by the bowel. She was then removed to a side room and put behind screens. From that time a marked improvement set in, the vomiting stopped, the abdominal symptoms disappeared, and the pulse improved considerably. After a few days she was given 3 grains of potassium iodide three times a day. A recurrence of the symptoms might have been expected, but no effect was noticed. On examining her neck a fortnight later I was able to satisfy myself that the thyroid gland was increasing in size. She remained in hospital for one month longer, at the end of which time she had gained 1 st. in weight and her pulse when undisturbed was normally about 100. The menses had not returned.

Two months later the patient came to see me. Her eyes were now distinctly prominent and her thyroid markedly enlarged. The pulse-rate was 105. Her hands showed the typical tremor. She had gained 7 lb. in weight, and expressed herself as feeling quite well but very nervous. Abdominal examination revealed nothing; the menses had not returned. There was now no doubt about the diagnosis: she had developed into a typical case of exophthalmic goitre.

According to Plumer the order of onset of the most important symptoms based on the average of a very large series of cases is as follows:—(1) Cerebral stimulation; (2) vasomotor disturbances of the skin; (3) tremor; (4) mental irritability; (5) tachycardia; (6) loss of strength; (7) cardiac insufficiency; (8) exophthalmos; (9) diarrhœa; (10) vomiting; (11) mental depression; (12) jaundice; and (13) death. As a rule the disease runs a fairly definite course. Severe vomiting usually is a terminal symptom; in fact, quite a large proportion of fatal cases die from severe gastro-intestinal symptoms. How exactly the toxin acts to produce vomiting it is impossible to say; probably through its action on the nervous system when an early symptom and akin to the vomiting of the gastric crisis in tabes. As a terminal symptom the gastro-intestinal symptoms are probably due to the long-continued action of the toxin disturbing and destroying the functions of the digestive organs—in much the same way as the poison of alcohol brings about destruction of the liver and pancreas, &c.

*Treatment.* — Exophthalmic goitre develops periods of remission of symptoms. For that reason we are apt to claim success to our methods which is not really attributable to them. The use of suprarenal gland extract I have tried repeatedly and have failed to get any results. Rest in bed and isolation are probably much more efficacious than the numerous drugs that have been recommended. Porter's method of injecting 2 drachms of boiling water into one lobe of the gland in very severe cases is well spoken of by those who are in a position to judge. Surgical intervention in very acute cases is out of the question.

Cape Town.

## OBSERVATIONS ON THE IMPROVISATION OF APPARATUS IN THE TREATMENT OF CERTAIN FRACTURES IN MODERN WARFARE.

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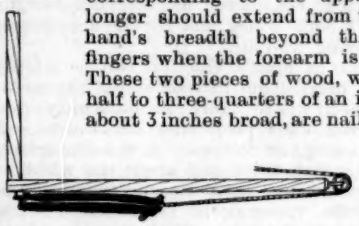
### III.[1]—FRACTURES OF FOREARM AND METACARPALS.

IT is a well-known fact that fractures of both bones of the forearm in the same plane are apt to be very troublesome if there is not a proper apposition of the fractured ends to one another. If they are displaced towards the interosseous space a bridge of callus frequently fills in the gap and thereby totally hinders the movements of pronation and supination. For this reason alone there is a very useful field for a simple extension apparatus for such fractures. It is hardly necessary to add that in fractures of a single bone no extension apparatus is required.

The method adopted by von Saar at Belgrade was to utilise elastic traction again after the manner of Borchgrevink. A rectangular splint is made of two pieces of soft wood, the shorter piece corresponding to the upper arm. The longer should extend from the elbow to a hand's breadth beyond the tips of the fingers when the forearm is outstretched. These two pieces of wood, which are from half to three-quarters of an inch thick and about 3 inches broad, are nailed together at a right angle. A screw pulley, such as described before, is firmly fixed into the centre of the free edge of the forearm piece and a strong nail is driven from below into the centre of the right angle, leaving about a quarter of an inch projecting. (Fig. 13.)

FIG. 13.



Forearm splint showing elastic traction attached.

[1] Nos. I. and II. were published in THE LANCET of Sept. 26th (p. 789) and Oct. 3rd (p. 849) respectively.

Before applying the splint an adhesive plaster is fixed to the forearm in the following way. A strip of plaster about 2 inches wide is applied to the volar and dorsal aspects of the forearm and hand as far as may be necessary, leaving a loop which is lined by another piece of plaster in order to allow unimpeded movements of the fingers. A few circular imbricating turns of leucoplast fix the extension strip to the forearm, and additional strips fix it to the hand if required. The extension string is fastened to a round or rectangular piece of wood, and placed in the loop of the forearm strap, which has been previously perforated for the passage of the string. The string is led over the pulley to the under side of the splint, where it is fixed in the loop of drainage tube, as previously described in the case of the arm; but in this instance the suspending nail is driven into the under side of the splint at the centre of the right-angled junction. A simple sling supports the forearm, so that the weight of the apparatus is eliminated. (Fig. 14.)

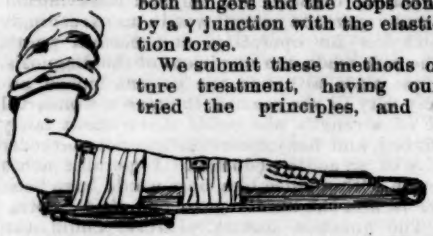
FIG. 14.

Simple right angle splint applied to forearm with elastic traction.

In applying extension in this way the forearm lies upon the corresponding portion of the splint, which need be only lightly padded, in the position of supination. The mid-position of semi-pronation may be adopted if considered more favourable for the healing of both bones, and for the dressing of any accompanying wounds.

The principle of elastic traction can be simply and efficiently carried out in fractures of the metacarpals by shot, where there is deformity due to the fractured ends projecting backwards and obvious shortening, as follows. A wooden splint, one-third of an inch thick and about the width of the patient's wrist and some two or three inches longer than the forearm, is required. To the opposite ends of this are fixed the requisite suspension nail and screw pulley. The splint is carefully padded on the side to be applied to the forearm—i.e., the under side, the position being one of full pronation. A thin strip of adhesive plaster is placed along the anterior and posterior aspects of the finger corresponding to the injured bone, reaching from the centre of the palm to a corresponding point on the dorsum and leaving a loop for the extension apparatus. The traction plaster is held in place by several circular turns of leucoplast wound round the finger, and if necessary one may be placed round the hand. The splint is now fixed in position to the forearm by several strips of adhesive plaster, which are again covered with ordinary calico bandages to prevent displacement. The elastic traction is attached in the usual way, and the forearm is comfortably slung in a triangular bandage. (Fig. 15.) If two metacarpals are broken extension straps are attached to both fingers and the loops connected by a Y junction with the elastic traction force.

FIG. 15.



Showing application of elastic traction to fracture of metacarpal. (N.B.—For clearness the usual padding is omitted in the sketch.)

We submit these methods of fracture treatment, having ourselves tried the principles, and having great confidence in their efficiency in suitable cases. Moreover, thanks to the courtesy of Dr. G. F. A. von Saar, one of us (J. H. W.) has seen the various apparatus in use at the Innsbruck Surgical Clinic, and has had the pleasure of observing the excellent clinical results obtained, and of seeing confirmatory röntgenographs. We are not aware that these methods have hitherto been published in the English language, and we are entirely indebted to the writings of Dr. von Saar[2] for the general outline and detail of this paper.

We have to thank Mr. Noel H. Leaver and Mr. G. Grant for the care they have taken in making the various diagrams.

Burnley.

# Reviews and Notices of Books.

*The Occupational Diseases, their Causation, Symptoms, Treatment, and Prevention.*

By W. GILMAN THOMPSON, M.D. London and New York: D. Appleton and Co. 1914. Pp. 724. Illustrated. Price 25*s.* net.

Dr. Thompson refers in his preface to the fact that this is the first book of its kind to be published in the United States. It is intended primarily for physicians interested in the subject of occupational diseases of modern life and also as a guide for students of social economics, insurance actuaries, and those with special interest in problems of labour legislation and the health of industrial workers. Regarded as a work of reference which, without pretence to exhaustive treatment, gives the main facts about occupational diseases, the book fulfils its purpose with very fair success. It has to be remembered that the concern of the public authorities and of the official medical service in the United States with occupational diseases is much less advanced than in the United Kingdom. Compulsory notification of industrial diseases has only quite recently been introduced, and is at present limited to six States, where the diseases to be reported are mainly limited to

[2] Ueber Kriegmässige Improvisation von Extensionsverbänden bei Extremitätenfrakturen; Kriegschirurgische Erfahrungen aus den Balkankriegen, 1912-13; Zur Behandlung der Schussfrakturen der Extremitäten im Kriege.

poisoning by four metals (lead, arsenic, mercury, and phosphorus, and their compounds), anthrax, and compressed air illness.

One of the chief merits of Dr. Thompson's work is the wide range of trades and occupations dealt with, and the number of interesting facts detailed in regard to them. These show that there are many incapacitating diseases of much greater frequency and importance than those to which legislative action in America has so far been limited. Preventive measures need not, of course, in all cases, or even in the majority of cases, consist in legislative and administrative proceedings; much can be done by bringing the cardinal points to the notice of employers and workmen, and making progress by educational means as through writings of this nature.

The sections of the volume relate respectively to general pathology and etiology; general remedial measures, prophylaxis and treatment; diseases due to irritants, under which heading toxic gases and anthrax are considered; diseases due to harmful environment; special occupational diseases; influence of alcohol, syphilis, &c., on occupational diseases; there is a chapter on miscellaneous industries which in one or another way entail risk of special illness. There are numerous illustrations of industrial processes, and the book is clearly written and well printed, though its weight avoirdupois is forbidding. So many occupations are dealt with that reference might have been expected to such occurrences as cow-pox in milkers, small-pox among workers at cotton mills, and Dupuytren's contraction among lace workers. "Pitch warts" perhaps merited a fuller description, and there seems some error in the attribution of tetanus to the bacillus mallei. Dr. Thompson advises that bleeding and transfusion should be adopted in all the more serious cases of carbon monoxide poisoning.

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*Therapeutics, Dietetics, and Hygiene: An Australian Text-book.*

By JOHN WILLIAM SPRINGTHORPE, M.D. Melb., M.R.C.P. Lond., Senior Physician to the Melbourne Hospital. In two volumes. Vol. II.: Therapeutics. Melbourne: James Little. 1914. Pp. 1121 + xcvi. Price 25*s*.

THE first volume of this work was reviewed in THE LANCET of June 13th last. The portion before us has the same real utility and the same defects of quality as the first. Its chief interest lies in the sketch given of the lines of clinical practice pursued in the wards of the Melbourne Hospital, which shows that good standards of precise work are maintained. But in a work of this pretension it is hardly necessary to include over 60 pages of a hospital pharmacopœia of an ordinary type.

An interesting account of mineral springs in the Commonwealth and New Zealand forms part of the chapter on spring and mineral waters. Such springs are few in number in Australia but very numerous in New Zealand, where many are practically unequipped and almost unused. The climatology is carefully considered by a number of authorities, mostly superintendents of sanatoriums, and this section will prove of service for reference.

The book attempts too much. To introduce a few passages on massage and electrotherapy and the mechanical treatment of spinal curvatures is to overload a volume already diffuse, while to attempt a summary of vaccines and serum therapy in 14 pages is a waste of space. We feel about this really industrious and in many ways useful work that the author's labours have not produced a commensurate result, because he has not written upon a sufficiently definite plan keeping a sense of proportion throughout.

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*Diagnostic Symptoms in Nervous Diseases.*

By EDWARD LIVINGSTON HUNT, Instructor in Neurology and Assistant Chief of Clinic, Medical Department of Columbia University, New York, &c. Illustrated. London and Philadelphia: W. B. Saunders Company. 1914. Pp. 229. Price 6*s*. 6*d*. net.

IN this book the main varieties of neurological symptoms or symptom-complexes are handled under such headings as deformities, paralysis, tremors, trophic disorders, gaits, ataxia, convulsions, disturbances of speech, and so on. As a result the student is confronted with lists of nervous diseases in each of which, for instance, tremor may occur, and he may come across them, or some of them, later as affections in which disturbances of gait may occur. Thus he gets but an interrupted view of any particular disease, although, no doubt, he may be able to combine his knowledge of symptoms into a synthetic study of the diseases themselves.

It is questionable whether such methods are profitable. He who is already fairly familiar with neurology might conceivably find advantage in refreshing his memory by consulting such a book of reference as this: it does not disdain tips—e.g., in the Argyll Robertson pupil, "remember the two last letters of the word Argyll—L L means loss of light." Its value, however, would be greater if it were more complete and if there were fewer statements to which exception might be taken. There is a chapter on the eye, but the ear and the labyrinth seem to be ignored; we can find no mention of vertigo. Spinal cord localisation, vertical and transverse, does not appear to be discussed, but this is one of the common diagnostic problems with which the student is faced.

The desire of the author to make his book concise is, no doubt, responsible for some of the misleading statements which it contains. Were it amplified its usefulness would be increased.

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*A Manual of Surgical Treatment.*

By Sir W. WATSON CHEYNE, Bart., C.B., D.Sc., LL.D., F.R.C.S. Eng., F.R.S.; and F. F. BURGHARD, M.S. Lond., F.R.C.S. Eng. New edition, entirely revised and largely rewritten with the assistance of T. P. LEGG, M.S. Lond., F.R.C.S. Eng., and ARTHUR EDMUNDS, M.S. Lond., F.R.C.S. Eng. In five volumes. Vol. V. London, New York, Bombay, and Calcutta: Longmans, Green, and Co. Pp. 619. Price 21*s*. net.

THIS is the concluding volume of the system of surgery which may be called the King's College Surgery, as all connected with it are on the surgical staff of King's College Hospital. It deals first with the surgery of the pancreas, and naturally the main subjects treated are acute pancreatitis and pancreatic cysts. Then follow chapters on the treatment of injuries and diseases of the liver and the biliary passages. In this connexion it is of interest to see it stated that, in cases of operation on the gall-bladder, if jaundice is present, it will be well to give lactate of calcium the day before the operation. The belief in the efficacy of calcium salts in such cases is not at all so widely spread as it was not very long ago; the basis of its administration was theoretical, and practice has hardly supported the theory. The chapter on the

surgery of the spleen is short, but contains all that is necessary.

In the section dealing with the surgery of the neck probably the most important portion is that treating of the removal of cervical ribs; the authors describe both the anterior and the posterior operations, but they do not say which they prefer. The section dealing with the surgery of the mammary gland is especially good. The authors speak favourably of repeated courses of X ray treatment over the part from which a carcinoma of the breast has been removed, the first course beginning about six weeks after the operation, and they are inclined to think that this treatment has a deterrent effect on recurrences.

This volume also contains an account of the surgery of the genito-urinary organs; the procedures here are excellently described and fully representative of present-day surgery. The final chapter deals with those operations on the female genital organs which may be found necessary in the course of an ordinary laparotomy.

## LIBRARY TABLE.

*Walt Whitman's Anomaly.* By W. C. RIVERS. London: George Allen and Co. Pp. 70. Price 2*s.* 6*d.* Sale limited to legal and medical professions.—The invitation of Shakespeare's clown, "Will you ha' the truth on't?" is a long time getting accepted. At some future date, perhaps now not so far away, the object of medicine will be recognised by public opinion to be the pursuit of all pertinent knowledge, instead of, as at present, therapeutics—with such prophylaxis as comes up in the course of therapeutically directed research. Then what are now the *Grenzgebiete* of medicine will better their provincial status. That one of them has lately made distinct steps in this direction is, however, probably due to the fact that Freud's work has revealed an interesting addition to the treatment of hysteria and neuroses generally. Those who read Freud soon perceive for themselves that there is implied a working acquaintance with sex problems, a branch of knowledge which, arising in the last 30 years, has rather outstripped general medical cognisance. This is where we think the little work under notice is likely to be useful to medical and medico-legal readers. Its general thesis is that a male sexual invert is a woman in a man's skin, a mental organisation changed in certain directions pervading the whole being; and the suggestion is that inversion is a mistake that nature is particularly apt to make in the case of men of genius or great talent. There is clearly considerable intellectual interest attaching to these facts, while medical men, who do not need reminding of the dangers of extreme democracy, may find here part of the great democratic poet's message rooted in what another critic, in finely perceptive phrase, has called "the instinctive anarchism of the degenerate." The book, though slight, is pithy and discerning, and deserves on the whole the recognition accorded it in important quarters. For ourselves, we find it hard to discriminate how far Mr. Rivers proves his point, or to what extent his "facts" are generally accepted. In any event, the memoir merely adduces one more case, which is far from being the same thing as proving a general thesis. For this reason we regret that the name of the subject was introduced, for the facts we think might quite well have been brought forward in a form so veiled that only those professionally interested and competent to form a discreet opinion would have pierced the veil.

*Examination of the Urine and other Clinical Side-Room Methods (late Husband's).* By ANDREW FERGUS HEWAT, M.B., Ch.B., M.R.C.P. Edin., Tutor in Clinical Medicine, University of Edinburgh. Fifth edition. Edinburgh: E. and S. Livingstone. 1914. Pp. 212. Price 1*s.* 6*d.* net.—This excellent little book gives the various methods in use for the clinical examination of the urine, blood, sputum, pus, gastric contents, and fæces. The part dealing with the urine (125 pages) is practically a rewriting of the fourth edition of Husband's "The Urine in Health and Disease." The other sections are new. The book is brought right up to date. A very valuable feature is that the fallacies of certain tests are carefully pointed out. The book can be commended to medical students to accompany their practical class work in the subject, and it will be hardly less useful to general practitioners out of touch with modern laboratory methods in clinical medicine. We note that the author quotes the not universally known term "side-room" in the text. It might have been advisable to do so also in the title. It is too suggestive of a misprint for "sick-room."

*Bacteriology for Nurses.* By ISABEL MCISAAC, R.N. Second edition, revised. New York: The Macmillan Company. 1914. Pp. 179. Price 5*s.* 6*d.* net.—In reviewing the first edition of this work we stated that the author puts the case for a knowledge of bacteriology by nurses extremely well, and produces a clear and accurate, if elementary, account thereof, including directions for so much working knowledge as is necessary for a satisfactory grasp of aseptic technique and an understanding of the sources and *modus operandi* of infection. These remarks equally apply to the present edition; but we still note the statement (p. 11) that "spores possess an extraordinary resistance to heat (70°–100° C.)," to which we took exception in our previous review. For the benefit of the English reader we may point out that "R.N." in the United States stands for registered nurse, not Royal Navy.

## JOURNALS AND MAGAZINES.

*The Annals of Tropical Medicine and Parasitology.* Vol. VIII., No. 2.—This may be regarded as an Entamœbiasis number of the Annals, for of the total 235 pages which are comprised in it all but 10 are devoted to the subject of entamœbiasis in its various aspects. The chief contribution is furnished by Dr. William M. James, physician to the Ancon Hospital, entitled A Study of the Entamœbæ of Man in the Panama Canal Zone, illustrated with six coloured plates. This paper gives a summary of the present state of our knowledge of amœbic dysentery, and supplies also the results of the observations made by Dr. James and his colleagues as regards dysentery in the Isthmus of Panama. The author presents his facts and conclusions on the identification and classification of human entamœbæ more from the point of view of the practising physician than from that of the protozoologist. Although, as a result of his studies, Dr. James is of opinion that there are only two species of entamœbæ found in man—namely, a pathogenic species, E. histolytica, the cycle of which ends in a four-nucleated cyst, and a non-pathogenic species, E. coli, the cycle of which ends in an eight-nucleated cyst—he finds it convenient in writing of the types of entamœbæ met with to call them by the names by which they are commonly known at the present time. So that when writing of E. histolytica, E. tetragena, and E. minuta he desires it to be understood as describing what appears to him to be different types of the same species. Dr. James, however, admits that the classification of species is not yet fully determined, and that this task is one for the protozoologist rather than for the clinician.—The next original article is on the dysenteries in

the Canal Zone with special reference to amœbic dysentery, by Dr. W. E. Deeks, chief of the medical clinic of the Ancon Hospital. This latter form of the disease, of which E. histolytica is the specific organism, Dr. Deeks thinks, has probably a water-borne origin; there is, he says, no endemic centre of the malady, and immunity, as we understand it, does not exist. Age, locality, nationality, or occupation plays no part in its etiology. The pathological lesions are peculiar and characteristic. As regards treatment, the author regards amœbicidal irrigations as useless; in his opinion the bismuth-milk-saline method of treatment (which was described in THE LANCET of Dec. 23rd, 1911) gives in almost all instances "splendid" results if administered in the proper way. In a second paper Dr. Deeks discusses the use of emetine in amœbic dysentery. It appears that when he wrote his first paper recommending the subnitrate of bismuth treatment the brilliant successes with emetine obtained by Colonel Sir L. Rogers, I.M.S., in Calcutta had not been published. Dr. Deeks therefore made trial of the new remedy at the Ancon Hospital. His observations show, however, that in 12 patients in whom emetine was used, 6 had relapses, though the drug greatly relieved the symptoms in all the cases. The author has now arrived at the conclusion that a combination of the two remedies, emetine and bismuth, would be more effective. Emetine probably acts as a direct poison to the amœbæ, while bismuth, in all likelihood, has the power of destroying symbiotic organisms necessary for the growth of the amœbæ in the intestinal tract. A third paper is contributed by Dr. Deeks on a six-days' fever in Panama, a malady hitherto unrecognised in the Western Hemisphere. It runs a characteristic febrile course, attended by a rash probably allied to the exanthemata, but the nature of the infection is not yet known. Appended to the paper are seven illustrative temperature charts. We may mention that in THE LANCET of Sept. 13th, 1913, some comments were offered on a preliminary note which Dr. Deeks had published in the *Journal of the American Medical Association* on this new form of fever, the precise nature of which still remains obscure and requires further investigation.

*Malaria e Malattie dei Paesi Caldi.* Anno V. Fasc. III. June 20th. Via Farini, Rome.—The May–June number of this publication, the last to reach this office from the Italian publishers, contains an article by Professor Arnaldo Cantani, of Naples, on the Action of the Micrococcus Melitensis on the Central Nervous System, and gives details of three cases—one of meningismus, a second of chorea, and a third of psychosis where maniacal attacks alternated with a condition of hebetude.—Dr. F. Giugni, of Rome, contributes a paper on the Vitality and Development of the Leishman-Donovan Body in Cultures. He found that growth took place only in blood media deprived of serum. He is of opinion that the rarity of the parasite in peripheral blood in comparison with its presence in splenic blood may be due to some peculiar property of the splenic serum.—Dr. C. Russo describes his experiments with trypoflavin as a cure for trypanosomiasis.—There are other articles on the Temperature in Ankylostomiasis, the Clinical Course of Mediterranean Fever, Oriental Boil, and the Transmission of Leishmaniasis.

## METROPOLITAN WATER BOARD:

### EIGHTH ANNUAL REPORT ON THE LONDON WATER AND TENTH REPORT ON RESEARCH WORK.[1]

Dr. A. C. Houston's eighth annual report deals with analyses of London water during the 12 months ending July 31st, 1914. The results are tabulated on the same lines as in previous reports, and they show that, on the whole, the quality of the London water was up to its average. A prominent feature of this, as of Dr. Houston's previous reports, is the emphasis laid on the bacillus coli test. The raw waters used for the supply of London afford a remarkable instance of the wide range of this index. Thus, while 94 per cent. of the samples of raw water taken from the Kent wells during the past year showed no typical bacillus coli in 100 c.c., no less than half of the samples of raw water taken from the Thames and Lea contained this microbe in 0·1 c.c. But in spite of the fact that the fæcal microbe in question is often a thousand times more abundant in the river water than in the Kent water, it is interesting to note that this river water is so purified in practice that over 80 per cent. of the samples of it, as delivered to consumers, contain no bacillus coli in 100 c.c. This, therefore, is the bacteriological standard of purity which Dr. Houston recommends for general adoption in the case of a potable water.

Dr. Houston's tenth report on research work contains a further instalment of his important investigations in connexion with the purification of water. The present volume is subdivided into seven sections, dealing with the following subjects: 1. Search for pathogenic microbes in river water and sewage. 2. Methods for the isolation of the typhoid bacillus. 3. Influence of temperature on the vitality of the typhoid bacillus. 4. Study of streptococci in excremental matters. 5. Value of storage. 6. Lime as a bactericidal agent. 7. Vitality of the cholera vibrio outside the body. This research report should be carefully studied by those who have to deal with water-supplies. In the first place, it is comforting to see that in spite of elaborate and strictly controlled quantitative investigations Dr. Houston has not found either the typhoid bacillus or Gärtner's bacillus in the London raw river water. After detailed comparison, he finds that malachite green solid medium gives best results for isolation of the typhoid bacillus. The annual range of temperature of the London water varies from 5 to 14·5° C. Dr. Houston has shown that the typhoid bacillus survives longer in water at the lower temperature, and accordingly he points out that it is especially desirable that during the five cold months (November–March) the raw river water should be adequately stored antecedent to filtration. A quantitative investigation of the acid-producing capacity of streptococci isolated from the fæces of man and animals respectively does not furnish, according to Dr. Houston, more than somewhat doubtful evidence for the purpose of their differentiation. His experiments on the effect of storage in freeing a water of undesirable bacteria lead Dr. Houston to the conclusion that this beneficial action is due to actual death of these bacteria, and not merely to their mechanical separation. According to the bacillus coli index, ordinary purification of raw river water by storage and filtration improves it about 1000 times; further experiments with Dr. Houston's excess lime method, however, show that by this process raw river water can be purified on a practical scale at least 10,000 to 100,000 times. The report ends with a reprint of the recent work of Major E. D. W. Greig, I.M.S., on the vitality of the cholera vibrio outside the body. Greig's results, which were obtained in India, confirm those of Dr. Houston with the typhoid bacillus in London. Both micro-organisms survive for a much shorter time outside the body in hot weather than in cold.

[1] By Dr. A. C. Houston. London: Charles Straker and Sons. 1914. Price of each 2s. 6d.

## ANNUAL REPORT OF THE METROPOLITAN ASYLUMS BOARD FOR 1913.

THE latest volume of this valuable series continues the medical, statistical, financial, and administrative reports and tables of previous years, and it also affords further illustration of the continued expansion of the functions which the Metropolitan Asylums Board exercises in connexion with the sick persons in London for whom institutional treatment or care has to be provided.

*Mental Defectives.—Children's Institutions.*

Accommodation is provided by the Board for both feeble-minded and "improvable" imbeciles and for "unimprovable" imbeciles. The latter, owing to the absence of any outlet for the children as they become adults, require more and more accommodation, and Tooting Bec Asylum, which is used for the adult cases, is now to be extended so as to increase the available beds from 1114 to 1727. Further schemes for the accommodation of the unimprovable children, temporarily accommodated at a hospital intended, and sometimes needed, for infectious disease, are also in progress. The report hints that the "improvable" class, in consequence of the operation of the Mental Deficiency Act, may shortly need new provision also.

The Board is responsible for Poor-law children who are "sick, debilitated, or convalescent," and those who suffer from contagious diseases of the eye and skin

It has been found that the special children's hospitals, particularly the Park Hospital, have been overtaxed by cases which are really in no need of the trained nursing and other conditions which these hospitals provide, and an effort has been made, as a result of inquiries made for the Board by Dr. H. E. Cuff, to limit the use of these hospitals as far as possible to children requiring operations, non-tuberculous bone and joint disease, non-pulmonary tuberculosis in its various forms, cases of lateral curvature requiring spinal exercises, and paralytic cases. The Board's hospital at Margate, where excellent results are said to have been achieved in the case of children with tuberculous joints, bones, and glands, is to be rebuilt and enlarged as a sanatorium for children providing 270 beds, largely in open-air verandahs, to which small indoor wards will be adjuncts. Of the children with ringworm in the special section of the Park Hospital, Lewisham, in 1913, 631 were treated entirely by X rays. Dr. H. G. Critchley, the assistant physician in charge of this treatment, states that, taking a date at random and 100 consecutive cases, the number of days elapsing between the date of X ray administration and the date of the certificate of fitness for discharge is 30·2.

*Casual Wards: Deterrent Measures.*

The policy of placing the different casual wards in London under the Board continues to be justified by the results obtained. The method adopted by the Board is to assist as many as possible of the casual poor without taking them into the casual wards at all, by passing them on to coöperating voluntary agencies, who in many cases have enabled them to return to the normal life of self-supporting citizens. There remains, however, a residuum of "able-bodied and physically fit young persons who deliberately refuse help and have determined to make themselves a burden on the community." The numbers of these persons rise with startling rapidity with any improvement of the conditions under which shelter and maintenance can be obtained at the public expense. The casual wards committee observe that the community undertakes to restrain and deter the drunkard, the petty thief, and the minor criminal, whose offence is much less vital than that of the man who insists on making himself a perpetual public burden, and they urge that restrictive and deterrent measures against all such persons have very ample justification. 879 inmates of casual wards were charged during 1913 at the metropolitan police-courts for neglecting or refusing to work or for other offences, and most of these were convicted, but it may be doubted whether these convictions have the deterrent results which the committee desire to see.

*Acute Infectious Diseases.*

17,544 cases of scarlet fever were notified in London during the year, and 15,010 cases of the disease were admitted to the infectious diseases hospitals. The case mortality rate was as low as 1·2 per cent., lower by 1·5 than the average for the preceding ten years. In the medical supplement to the report, edited by Dr. F. M. Turner and Dr. J. E. Beggs, the following figures are given in regard to "completed" cases in illustration of the decline in the number of cases of septic scarlet fever.

| — | 1909. | 1911. | 1913. |
|---|---|---|---|
| Case mortality ... ... ... ... ... ... ... | 2·33 | 1·94 | 1·25 |
| Otitis... ... ... ... ... ... ... ... ... ... | 12·70 | 11·42 | 8·81 |
| Adenitis (early suppurative) ... ... ... ... | 0·83 | 0·69 | 0·17 |
| ,, of convalescence, simple... ... ... | 7·68 | 6·36 | 4·95 |
| ,, ,, suppurative ... | 1·26 | 1·02 | 0·77 |
| Bronchopneumonia ... ... ... ... ... ... | 0·52 | 0·45 | 0·31 |
| Ulcerative stomatitis ... ... ... ... ... ... | 0·96 | 0·73 | 0·61 |

The 5076 admissions for diphtheria at all ages included 1998 children under 5; the all-age case mortality was 6·5 and that under 5 was 10·2. This is stated to be the lowest rate on record, 2·4 below the all-age average of the preceding 10 years. Certain cases "certified after the bacteriological test only" have been excluded from these figures. The preparation of diphtheria antitoxin for the Board has continued, and is reported on by Dr. G. Sims Woodhead and Dr. G. E. Cartwright Wood. An interesting appendix by Dr. J. D. Rolleston and Dr. C. R. Macleod, assistant medical officers of the Grove Hospital, describes the technique and advantages of intramuscular injections of antitoxin, and is made the subject of an annotation this week.

The admissions in 1913 for enteric fever were 238; puerperal fever, 58; poliomyelitis, 11; and cerebro-spinal fever, 5. The measles cases admitted were 3400, of which 2744 were children under 5. The all-age mortality rate was 12·6, and that under 5 was 14·6. The Statistical Committee state that it should be remembered that the high mortality rates from this disease at the Board's hospitals are the result of the special class of cases admitted. Unlike scarlet fever and diphtheria, measles admissions are still limited to children of the poorest class and to urgent and necessitous cases recommended by medical officers of health. Similar considerations apply to the 1044 cases of whooping-cough (at all ages) admitted during 1913, of which the case mortality was 13·1 per cent.

As regards the average length of residence of patients who completed their recovery or died at the Board's town hospitals during the year, the figures are for scarlet fever 58·7 days; diphtheria, 57·3 days; enteric fever, 59·2 days; measles, 42·6 days; and whooping-cough, 91·4 days. The averages naturally vary in different institutions. Separate figures are given for those cases which were transferred to convalescent institutions.

Only one case of small-pox was admitted during the year. With regard to Joyce Green Hospital, the main institution set aside for small-pox, Dr. T. F. Ricketts points out in his report that its use during an interepidemic period of diseases other than small-pox has the great advantage that a nursing staff is permanently in evidence and available for small-pox should the hospital be suddenly required for its original purpose. In the present conditions of the nursing service Dr. Ricketts doubts if the necessary nurses could be obtained at short notice.

*Tuberculosis.*

Various negotiations between the Board and the Local Government Board, London County Council, and London Insurance Committee, as to the provision of residential institutions for tuberculosis, are detailed in the report. The Downs School at Sutton, formerly occupied by sick children, was converted into a male sanatorium and opened in February, 1913, 1213 cases being admitted up to the end of the year. Part of the Northern Hospital was opened in March, 1913, accommodating 192 male and 517 female tuberculosis cases. Reports by the respective medical superintendents are included in the volume, and naturally relate principally to organisation. In regard to the Downs Sanatorium, Dr. A. F. Cameron refers to the great difficulties which have to be overcome in converting an old institution to a purpose very different from that for which it was intended. These difficulties have been particularly great in consequence of the relatively small area of land attached to the institution.

## ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AT the extraordinary Comitia held on Thursday, Sept. 20th, Sir THOMAS BARLOW, Bart., K.C.V.O., the President, in the chair, licences to practise physic were granted to 122 candidates who had passed the required examinations.

The following communications were received: 1. From the secretary of the Royal College of Surgeons of England, dated July 31st last, reporting proceedings of the Council of that College upon July 30th. 2. From the secretary of the Ninth International Penitentiary Congress, to be held in London in July, 1915, asking the College to nominate a representative upon the National Committee of the Congress. It was resolved to request the President to nominate a representative should the Congress take place.

The College resolved not to hold the usual dinner this year on the evening of the Harveian Commemoration (Monday, Oct. 19th), but that the oration should be delivered as announced.

# THE LANCET.

*LONDON: SATURDAY, OCTOBER 10, 1914.*


## The British Pharmacopœia, 1914.

THE publication of a new issue of the British Pharmacopœia is an event of real importance both to medical practitioners and to pharmacists. The Medical Act of 1858, Section 54, enacts that "the General Council shall cause to be published under their direction a Book containing a list of medicines and compounds, and the manner of preparing them, together with the true weights and measures by which they are to be prepared and mixed, and containing such other matter and things relating thereto as the General Council shall think fit." The issue of 1914 is the fifth British Pharmacopœia, the fourth having appeared in 1898. The Council has desired in each issue to afford to the members of the medical profession, and to those engaged in the preparation of medicines throughout the British Empire, one uniform standard and guide whereby the nature and composition of substances to be used in medicine may be ascertained and determined. In the preparation of this edition the Pharmacopœia Committee of the General Medical Council has been throughout assisted by a strong Committee of Reference in Pharmacy, appointed by the Pharmaceutical Societies of Great Britain and Ireland; by highly scientific Reference Committees in Chemistry and Botany; and by official information derived from India and our colonies. It behoves all medical practitioners and pharmacists to make themselves acquainted with the principal changes and additions which have been made in the prescribing and preparation of remedies since the issue of 1898 was published. In another column we publish an article dealing with the subject mainly from a pharmaceutical point of view, confining ourselves here to points of particular interest to those engaged in medical practice.

The first point we have to note is that the metric system is employed for all the pharmaceutical and analytical computations in the volume, and that imperial equivalents are no longer given. This will naturally compel all pharmacists to adopt the metric system, and will at first perhaps cause some complaints, but the final result will naturally tend to international uniformity. In the specification of doses both systems are employed, but there is evidently an expectation that in the near future the metric system will be generally adopted by British prescribers. The older practitioners, not having acquired the use of the metric system recently or thoroughly through work in chemical or pathological laboratories, will find some difficulty in adapting their thoughts to the use of grammes and centigrammes instead of grains or fractions thereof, but students and young medical men have already accustomed themselves to learning the doses of drugs according to the metric system as well as to the more familiar imperial system. When once mastered the former possesses many advantages over the latter. Another significant recommendation is that the symbols ℥j and ℨj should be discontinued. There will certainly be considerable difficulty to many practitioners caused by the adoption of the new style, and it will be necessary for many at first to be exceedingly careful over dosage. And with regard to dosage we are glad to see the prefatory remark: "It must be clearly understood that the 'doses' mentioned in the Pharmacopœia are not authoritatively enjoined by the Council as binding upon prescribers." It has never been sufficiently understood that the dosage of the Pharmacopœia is only intended as a guide. The experience of individual practitioners teaches them the most effective quantities which may be prescribed, and how far the average doses may be exceeded or diminished in particular cases. Doses in practice are frequently larger than those suggested by the official work, and numerous instances will at once present themselves to our readers. For instance, the dose of camphor is given as 2 to 5 grains (using the old system), whereas in cases of cardiac failure, especially in pneumonia, 30 grains may be injected in sterilised almond oil. The medical practitioner is left by the express instructions of the Pharmacopœia Committee of the General Medical Council to exercise his own judgment and act on his own responsibility in respect of the amount of any therapeutic agent he may prescribe or administer. When an unusually large dose is prescribed it is the duty of the pharmacist or dispenser to satisfy himself that the prescriber's intention has been correctly interpreted. A highly important series of alterations will be found in the new edition—namely, the changes in strength of certain preparations. Some of these modifications are discussed by the Pharmacopœia Committee. From the point of view of the practitioner these changes require careful study, notably in respect to tinctures in daily use. Certain of these have been diminished in strength—as, for instance, the tincture of nux vomica—whilst others have been increased, the tincture of strophanthus being four times as strong as before. Attention is drawn to these alterations in a paragraph of different type under the heading of each preparation, so that they are easily detected, the explanation of the change being usually indicated by the statement that the new preparation is of approximately the same strength as the tincture of the International Agreement. The International Agreement is a series of recommendations adopted at an international conference respecting the unification of the formulæ for potent drugs and preparations in the several

national pharmacopœias. The conference was held at Brussels in 1902, and the recommendations were adopted in 1906 by the participating states.

It has always been the custom to freely employ contractions of Latin words in writing prescriptions, and we are glad to see that the difficulties arising from the vagaries of prescribers are now taken note of. Hitherto the form and extent of such contractions have been left to individuals. Now an attempt has been made to arrive at uniformity, and in the new Pharmacopœia is a list of abbreviated Latin names of official drugs. Whether these abbreviations will meet with general adoption is certainly open to doubt, but if they gradually come into use a source of confusion will be avoided. There is strong evidence throughout the whole book that the greatest care has been devoted to its compilation, and the thanks and congratulations of the profession are due to the members of the Pharmacopœia Committee of the General Medical Council, who have been entrusted with the arduous undertaking. The Committee has very rightly expressed to the Council its high appreciation of the manner in which Dr. NESTOR TIRARD has performed his responsible duties as senior editor of the British Pharmacopœia and secretary to the Committee since his appointment to the office of secretary in 1895. This testimony will be supported by the medical profession at large.

## The German Medical Profession and Preparations for War.

MOST of the letters which the American medical journals are wont to publish from special correspondents in Germany have ceased to appear, but the *Journal of the American Medical Association* has published a letter from a contributor in Berlin dated August 8th but delayed in transmission. From this it appears that not only the regular army surgeons, but also the whole reserve, were immediately mobilised. In addition, a large number of civil practitioners, some of whom have performed military service, while others have not, have placed themselves at the disposal of the War Department, mainly, it is said, for service in home hospitals when these are organised. Calculating on the basis of the Franco-Prussian war, it is estimated that there are 12,000 practitioners serving the army. Senior students are being excused their final examination in order that they may serve with the army as surgeons, and these are perhaps the medical men referred to in a communication which we publish elsewhere from a correspondent writing from Switzerland. To meet the shortage in civil practitioners which might be created the representatives of the profession in the neighbourhood of Berlin and in other districts have required practitioners at home to take over the practices of their colleagues at the war free of charge. Loans are also being issued by the medical organisations to needy families of practitioners without charging interest, and the funds of the Leipziger Verband, raised for the insurance fight, and amounting to about £50,000, have been devoted to the same purpose. The German public is maintaining a fund to provide care for the wounded; this is said to have reached a sum of £50,000, including a contribution of about £5000 from the KAISER, within the first ten days of mobilisation. No doubt the fund has by this time reached a high figure, as undoubtedly the numbers of wounded are very large.

For the reception of the wounded arrangements very similar to our own have been made. There are the military hospitals and also the State and municipal hospitals. Private hospitals and the castles of the nobility have also been offered freely. On July 31st, before war had been declared between Germany and Russia, an Imperial Order was issued forbidding the export of material for dressings and remedies, as well as surgical instruments and apparatus, until further notice. On the same date a list of articles included in this embargo was published. These steps immediately produced a rise of prices in Austria, where the wholesale druggists issued a circular pointing out that this was inevitable. An American correspondent of the *Journal of the American Medical Association* calls attention to the fact that, owing to the departure of their employees for active service, most of the surgical instrument factories in Germany are closed, and points out that this is America's opportunity. British manufacturers of surgical instruments are also realising that a chance is being offered of securing foreign and home orders that have hitherto gone to Germany, though the reduction of prices to the German scale will certainly cause considerable difficulty in some directions.

# Annotations.

"Ne quid nimis."

### THE ROYAL SOCIETY OF MEDICINE AND THE WAR.

THE influence of the war is making itself felt everywhere. A most noticeable feature in the Calendar of the Royal Society of Medicine for 1914–15 is the marked reduction in the total number of section meetings announced for the forthcoming session. The reason is obvious. A war of the present magnitude not only calls for a large increase in the establishment of regular medical officers at the front, but Red Cross and other voluntary societies, both abroad and at home, take away from civil life a considerable number of medical men. Then there is a vast number of Territorial medical officers called up, and a great deal of administrative work being done to which all classes in the medical profession are freely contributing their share in personal service. The patriotic response to the call of the nation has been quite as enthusiastic in the medical profession as in any other walk of life, and we may add with pardonable pride that from all quarters

comes a whole-hearted testimony to the value of its services and to the competence and devotion to duty of its members. The exiguousness of this year's calendar of the Royal Society of Medicine is thus honourably accounted for. But the temporarily unproductive season of sowing will produce in the future a richer harvest, probably, than has ever followed a war—a harvest of observations and of medical and surgical principles founded thereupon, which will extend scientific knowledge in its application to the healing art. Thus not only military medical science but suffering humanity at large will derive incalculable benefits. All honour to our medical soldiers, who, as the published casualty lists demonstrate, while engaged in the saving, not the destruction, of life, cheerfully and bravely pay toll of their own body in a proportion nowise inferior to that of their "combatant" comrades. The society's programme is, however, by no means a negligible one, in spite of the difficulties mentioned, and it may be worthy of special notice that one of our Indian colleagues, Professor Chunder Bose, D.Sc., of Calcutta University, is announced to give a demonstration before the Fellows on Oct. 30th, at 5 P.M., on the Modification of Response in Plants under the Action of Drugs. We trust that an adequate attendance will reward him.

## THE CULT OF ÆSCULAPIUS IN GREECE AND ITALY.

IN the Proceedings of the Accademia dei Lincei Signor A. Mainri once discussed an inscription upon an ex-voto set up in the sanctuary of Æsculapius upon the Esquiline hill in Rome. The inscription occurs upon the base of an offering representing Æsculapius as an infant, and erected, so the inscription states, by Nicomedes, a physician who is known also from a previously edited Greek inscription. The date of the text, if it could be ascertained with certainty, might fix the time of the building or rebuilding by Diocletian of the temple of Æsculapius, inside Trajan's Baths; but the dedication by Nicomedes may be a copy of an ancient text, and the statue also a replica of a former one executed to be placed in the Diocletian temple in place of one known to have been in an older shrine of the god of healing in Rome. M. F. Versakes, who is endeavouring to establish with greater accuracy the topography of ancient Athens, while tracing the partly covered foundations of the outer wall of the Asclepieum there, came upon those of a still earlier sanctuary beneath them. These enclose a larger space than the Asclepieum boundary, and so mark the precincts of the older Eleusinium. The first shrine of Asclepios was probably in the western part of this larger enclosed space, but after the god was invited to Athens as guest and protector he appears to have appropriated most of the eastern part of the Eleusinium, leaving the western space, near the entrance to the Acropolis, to serve as the Eleusinium for later times. Some years ago, from very ancient Greek inscriptions discovered in a small temple ruin upon the Acropolis at Athens, Herr Koerte considered it proved that the god of healing, of whose worship Sophocles was a priest, was Amynos, who in B.C. 420, on the introduction of Asclepios, was associated in worship with the latter deity, and with Hygeia. Sophocles then became an official of the Asclepios cult. In a recent number of the *Journal of the German Archæological School at Athens*, however, Herr Schmidt has endeavoured to show that the medical deity to whom Sophocles was first a priest was Halon, who is to be identified with Halissothius. The cult, like those of many early deities of healing, was connected with a spring. The Latin legend sets forth that in B.C. 293 an oracle commanded the Romans to send an embassy to Epidaurus to find out what god was adored there, and that in consequence of that deputation Æsculapius came to Rome in the form of a serpent. This story may have originated from a statue of the deity having been transported to Italy bearing with the deity's own image his customary attendant serpent. As an interesting commentary upon this theory the evidence derivable from inscriptions found in Italy tends to show that Æsculapius did not, as was stated by Roman annalists, arrive in Rome direct from his most important and ancient shrine at Epidaurus, but by some more circuitous route and from some intervening sanctuary, probably in Southern Italy. In support of this view it is noticeable that in the dedicational inscriptions to him found in his early shrine upon the island in the Tiber his name is spelled Aiscolapio, indicating that his cult came there from some Greek sanctuary whereat it was written *Αἰσκλαπιός*. Now this spelling had disappeared at Epidaurus as early as the fifth century B.C., and had given place to *'Ασκλαπιός*, later *'Ασκληπιός*. The route by which the worship of Æsculapius really reached Rome appears to have been *vid* Tarentum, for an inscription upon a vase from that place spells the name Aislapi. Moreover, Varro, when writing of a picture representing a chariot race in which the contestants are Tarentines, tells us the scene was at an old temple of Æsculapius. Again, Julian, in the fourth century of our era, wrote of the Æsculapian cult as coming from Ionia to Tarentum and thence to Rome, and as the peace with Rome and Tarentum was made in B.C. 293, this agrees with the date of the legendary arrival of the deity in Rome from Greece. It would seem likely, therefore, that the worship of Æsculapius came to Tarentum, in Italy, from Greece at a very early date, while the deity's name was spelt in its archaic form, and later journeyed up the Italian peninsula from the south to Rome.

## THE INTRAMUSCULAR INJECTION OF ANTITOXIC SERUMS.

A STRONG plea for the intramuscular rather than the subcutaneous or intravenous injection of antitoxic serums is advanced by J. D. Rolleston and C. Macleod,[1] who have employed it with success during the last six months in 339 patients with diphtheria. It is pointed out that the absorption of the antitoxin into the blood is, naturally, most rapid when the serum is given by intravenous injection; but the absorption after deep injection into the muscles of the thigh is only a little less rapid, and proceeds very much—from 3 to 20 times—faster than does absorption after subcutaneous injection. The technique advised is very simple. Without preliminary washing the outer side of the thigh in its middle third is painted with a 2 per cent. solution of iodine, the needle is driven deep into the body of the Vastus externus, and the injection is given in the ordinary way. 20,000 units, or 50 c.c., can be readily injected thus even in small children. Directly the needle has been withdrawn after injection the site of puncture is again

[1] British Journal of Children's Diseases, London, 1914, xi., 289.

painted with iodine solution and a collodion dressing applied. The thigh is to be preferred to the gluteal region, not only because there is less probability of injuring important vessels or nerves, but also because the thigh muscles are much more compact and exercise greater pressure on the injected fluid, rendering absorption more rapid. No suppuration was noted after any of the 412 injections administered. On the other hand, the benefit of the rapid absorption thus obtained was shown by the lesser incidence of post-diphtheritic paralysis, especially of a severe kind, in the patients treated by this method.

## SUPERSTITIONS IN TIME OF WAR.

TERRIBLE as it is, a state of war has certain compensations for the student of custom, for it often leads to a recrudescence of interesting superstitions concerning self-preservation and health. These mostly date from a remote antiquity. The wearing of charms, for instance, and the employment of various forms of mascots to ward off death or disease are very ancient, and are still not unknown among those European soldiers whom primary education has not sophisticated. The scapulary, or fragment of holy cloth, is worn next the heart by all kinds of fighting men, whose ancestors marched in procession under banners that were supposed to ward off plague when epidemics were raging in mediæval cities. But it is not only in the tented field that primitive superstitions are reborn. Relics of antique custom and belief spring up almost everywhere in periods of stress such as the present. From Dorsetshire, for instance, home until lately of "conjurors" and "wise women," who acted as tribal medicine men among a peasantry of Goidelic descent, there comes to us anonymously a "snowball" prayer, which we are asked to copy out nine times and to forward to nine different destinations within nine days." "This prayer," says the anonymous sender, "has been sent to me and is to be sent to all the world. It was said in ancient times that all who passed it by would meet with some misfortune, and that all who wrote it would be free from calamity." It is a simple non-committal prayer, but the manner of its transmission savours a little of blackmail. It would be interesting to know whether such prayers are peculiar to times of national calamity such as those of war or epidemics. A cumulative prayer might certainly have been employed by the pious as a prophylactic during the diffusion of, say, the Black Death. But at present we can find no instance of such.

## THE LEPROSY PROBLEM IN THE UNITED STATES.

THE August number of the *Ohio State Board of Health Monthly Bulletin* contains an editorial on leprosy in which reference is made to the reported occurrence of several cases in that State during recent years. The writer of the article estimates that there are at the present time 3,000,000 lepers in the world, two-thirds of whom are Chinese and 200,000 live in India, the remainder being scattered irregularly throughout other countries in the eastern and western hemispheres. It is said that there are in the United States some 500 persons suffering from leprosy, Louisiana, California, New York, and Minnesota being the States especially involved. The precautions taken to prevent the spread of the disease are not uniform nor are they effective in all instances. Fears are expressed that if proper measures be not taken there will be a marked increase in the number of cases during the next few years. A Bill has been recently introduced into Congress for the establishment of a national asylum for leprosy, or "leprosarium," as it is termed in some American quarters, to be located in a situation selected by the Surgeon-General of the United States Public Health Service. The Bill, however, does not appear to have aroused much interest in the minds of the people's representatives, and fear is expressed that the measure may be shelved unless public attention is strongly directed to it by sanitary workers and medical practitioners. As leprosy may become a real problem to be faced in the near future by the American people, now would appear to be the time to attack it. The passage of the Bill through Congress should facilitate the safe disposal of a menace to the inhabitants of the United States.

## ASTEREOGNOSIS AND DEJERINE'S ROOT SYNDROME.

THE later work of several French neurologists, especially Dejerine, has emphasised the clinical significance of loss or diminution of form perception. The term agnosia, perhaps, is better, as this more aptly limits the sense of stereognosis to inability to recognise objects because of lack of information about them, and excludes the factor of judgment. The factors responsible for astereognosis are mainly deficient tactile and deep sensibility—depression, that is to say, of the two main sensory channels of information to the brain. It is usually necessary for both these senses to be depressed; deep sensibility alone may induce agnosia. Additional causes of agnosia may be found in certain forms of cerebral hemianæsthesia; in a few cases where a lesion damages the bulb, and especially when a lesion exists just behind the ascending parietal convolution (Wernicke, Milles, and Weisenburg). Finally, there are cases of agnosia due to insufficient education of stereognosis, such as occurs in infantile hemiplegia or brachial monoplegia (Pélissier and Regnard). The practical value of astereognosis has lately been especially emphasised by Dejerine in that its detection, indicative of depression of deep sensibility, facilitates the diagnosis of a new syndrome, termed by him the "syndrome of the long root fibres of the posterior column." Such a syndrome presents some resemblances to tabes dorsalis; it reveals, however, important and significant differences which have a definite anatomical basis. In this syndrome there may be ataxia of the limbs, but the sensibility is different from that of tabes. In tabes both deep and superficial sensibility are depressed; in Dejerine's syndrome deep sensibility is markedly depressed, as evidenced by agnosia, but tactile sensation is normal. The explanation of this difference is this. Tabes is essentially a posterior root lesion, and as such damages the transmission of all forms of sensory impulses, not only those of superficial sensation, touch, pain, and temperature, which pass into the cord by short and medium length fibres, masking rapidly in this way the posterior horn cells, but it also injures the long fibres of the sensory tract, which convey deep sensations and which do not immediately mask the horn cells. In Dejerine's syndrome, on the other hand, since superficial sensibility is preserved, it is suggested, with the support, in one instance, of pathological examination, that the long root fibres

are alone implicated. The etiology, consequently, is different in the two conditions. Dejerine's syndrome is not of syphilitic origin; it is rather a combined sclerosis of the cord of subacute type, and may follow acute infections or blood diseases. Since its first description by Dejerine other cases have been reported (Souques, Jumentié), and its clinical recognition may not be without significance in relation to its rational treatment.

## A COLLEGE OF AMBULANCE.

A VALUABLE development of amateur ambulance and "first aid" work has taken place in England in the last two years, but it is doubtful if the country realises how much it owes to Mr. James Cantlie in this matter. That debt has, however, been well acknowledged by the real workers in this movement. At a recent meeting held at the Polytechnic, Regent-street, W., it was proposed to establish in Mr. Cantlie's name a College of Ambulance, at which a more systematised and special instruction may be given in such work than is at present available. By the generosity of Mr. James Boyton, M.P., the college is to be housed in Vere-street in a satisfactory manner. The equipment of the college will include a museum of apparatus and models of contrivances employed in modern scientific ambulance work. Demonstrations and classes are to be systematically given on subjects chosen from time to time, and courses of instruction will be held for medical officers, commandants, and other officers engaged in this service. It is further proposed to institute diplomas in this subject and to affiliate the examinations of the various existing bodies. The proposal will meet with a ready welcome from all those engaged in ambulance work. We do not welcome with any particular favour the creation of diplomas in special subjects allied to medicine, but if they will be useful in raising the standard of "first aid" work we have nothing to say. The more enthusiastic these workers are, the more they will feel the limitations of their own knowledge and the lack of a higher plane of instruction, while the institution of a hall-mark will show that such lack is being supplied. But the improvement of the scientific aspect of first aid to the injured is not the whole matter presented to the minds of Mr. Cantlie and his friends. They seek to embody with that improvement the formation of a "humanitarian corps" to render first aid to those in need; to revive in a material age a successor to the two well-known bodies which both had origin from plague and pestilence, the Parabolani of the Alexandria of the reign of Gallienus and the Frati della Misericordia of Florence of the thirteenth century.

HUNTERIAN SOCIETY.—The session of the Hunterian Society will open on Wednesday, Oct. 14th, when Sir Dyce Duckworth will deliver the first Hunterian Society lecture on the Patient and the Disease, at 9 P.M. The meeting will take place at the hall of the Worshipful Company of Barbers, Monkwell-street, E.C. All members of the medical profession are invited to attend.

THE MANCHESTER RADIUM COMMITTEE.—In spite of many other matters that require attention in this unwonted period of activity the radium question in Manchester is being kept well in view. The Radium Committee, which raised about £31,000 for the purchase of radium, have secured a large supply which was intended for German hospitals. From Pittsburg radium to the value of £15,000 has been ordered and will be delivered in a few days. The new radium department at the Royal Infirmary will be opened at the beginning of November.

## A NOTE UPON THE WOUNDS OF THE PRESENT CAMPAIGN.

BY G. H. MAKINS, C.B., F.R.C.S. ENG.,
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PERHAPS no greater surprise has been experienced than the nature of the wounds met with in the present war. The relative frequency of wounds from bullets of small calibre and those inflicted by shrapnel or fragments of shells which was observed in the South African war has been actually reversed. Moreover, of the limited number of bullet wounds a considerable portion have been inflicted by machine guns of the Maxim type and not by rifles.

A survey of the serious wounds in any hospital forcibly reminds the observer of the water-colour drawings made by Sir Charles Bell, and preserved at the Royal Army Medical College, and he seems transported to the era of the Peninsular war or of the Crimea. There is, in fact, little difference between wounds inflicted by the German shrapnel and those of the round ball fired from the old-fashioned musket.

Recent experience as to the course taken by bullet and shell wounds respectively has been fully confirmed. Wounds produced by the small calibre bullet maintain an aseptic condition if uncomplicated, while shrapnel and shell wounds without exception become infected and suppurate. The mere occurrence of suppuration in the case of even extensive wounds of the soft parts has led to less serious consequences than might have been expected; the sloughy surfaces rapidly clean up, especially under the influence of an iodine bath (℥i. to the Oi.), and the patients, after a couple of days' rest in bed, show wonderfully little sign of constitutional infection. This is also the case in many of the compound fractures, although it is difficult to gauge how long and tedious their course to ultimate recovery may prove.

### *Nature of the Wounds.*

The nature of the rifle wounds differs little, if at all, from that observed in the case of the Lee-Metford or dome-shaped Mauser bullet, except that the openings are of slightly larger size. The comparative infrequency of bullet wounds accounts for the fact that isolated nerve and vascular injuries are not common.

The wounds produced by the shrapnel balls vary in importance with the velocity retained at the moment of impact; some merely bruise, while others penetrate, and others, again, produce injuries of the most severe "explosive type." The entry wounds are comparatively small, often of the slit or gutter type, while the exit, especially where the bones are near the surface, as in the forearm or leg, may be a large mass of extruded lacerated muscle with numerous fragments of the comminuted bone exposed upon the surface. Such wounds are undoubtedly far more common than was the case in South Africa, and although some may be due to rifle bullets, the men themselves are confident they were produced by shrapnel. The patients also attribute extensive lacerations of the soft parts without injury to the bones to shrapnel bullets, but it seems obvious that these have been caused by fragments of the case or of high explosive shells. Such fragments penetrate, sometimes leaving a narrow bridge of skin over an extensive laceration of the subjacent soft parts. When they strike the bones a deep wedge-shaped groove is cut, numerous fragments of the bone adhering to the soft parts, while the extremities of

the cut bone sometimes present the appearance of a fracture of cane, actual threads of bone projecting into the wound. Lodgment both of bullets and shrapnel balls is comparatively common, and contour wounds of the chest and head are not rare.

Certain special characteristics due to the use of machine guns and shrapnel are very striking. Thus a man struck by a machine gun may have a line of wounds passing from right to left across the body; in one case five separate wounds at the same level were distributed across the chest. Again, when exposed to shrapnel fire, where the shell bursts low, a very large number of balls may strike the same individual; as many as 34 wounds of varying severity have been counted on the body of one man. In spite of the fact that no separate wound is of any severity, such multiple wounds cause extreme shock, from which many of the patients die, while others take some days before reaction is complete.

The vast majority of the wounds do well, the bullet wounds of the soft parts taking the same uneventful course already familiar. In the more serious injuries due to shrapnel or fragments of shells, a few days' rest usually suffices to reinvigorate the patients; there is little evidence of constitutional infection either in the general appearance, the temperature, or the pulse-rate, and the men eat, drink, and sleep well. It is also very remarkable how little the majority of the men are affected psychically by the grave conditions, both bodily and mental, to which they have been exposed for some weeks.

*Wound Complications.*

Suppuration and a variable amount of sloughing of the soft parts are the rule. After a few days the most striking feature is the rigid eversion of the skin margin of the wound which persists for some time. When the wound is a deep circular one the resemblance to a crater in a malignant growth is very great, but in a short time the edge softens and flattens down, the wound itself then becoming covered with large masses of soft granulations which bleed freely.

In a certain proportion of cases the result is more serious, especially in men who have lain out a long time and suffered during transport. A spreading gaseous cellulitis develops which rapidly extends the whole length of the limb to the trunk. The parts above and below become rapidly involved by a soft doughy œdema first evident along the line of the main lymphatic trunks, and spreading eventually through the entire thickness of the limb. The tissues are often crepitant, and a dark reddish discolouration appears over the dependent parts. Meanwhile abundant sanious pus and bubbles of very stinking gas escape from the wound itself. The white tense limb with marbling on the surface characteristic of infections with bacillus aerogenes capsulatus I have not seen. The bacteriology of these wounds is now being worked out. The resulting gangrene is difficult to treat by amputation, as the flaps rapidly assume the condition of the gangrenous part removed. When temporised with the gangrene shows a tendency to localise itself, mummification commences, and if free enough exit for the discharge can be provided a chance of a later operation is gained. Gangrene of this character is responsible for a very considerable mortality.

*Tetanus: Prophylactic Use of Serum.*

A very serious complication of wounds is the development of acute tetanus, running a very rapid course, but not marked by very severe spasms. This as a rule develops during the first week after the reception of the wound, but sometimes as late as the tenth or fifteenth day. The initial source of infection is to be traced to the soil; it has been suggested that the trucks forming the ambulance trains and straw used for bedding down the patients might be responsible, but for this no evidence exists, and many patients have developed the disease prior to transport. The scourge is affecting the armies of the Allies and Germany in equal degree of severity. An attempt to control its development by the administration of prophylactic doses of serum to all patients with severe open wounds as soon as they are brought in from the field is now being made.

There is no doubt that these complications are the direct result of difficulties of collection and transport of wounded attendant upon the military conditions under which fighting is now taking place. Many of the patients lie in the trenches until the darkness of night allows of their removal; their clothes are infiltrated with mud, while the same shell which has caused the wound often brings down the side of the trench and the injured limb may be covered with soil. Again, the fragment of shell itself is commonly fouled with soil. Abundant opportunity thus exists for a primary infection of the wound of a very gross nature by the organisms of the soil. One has only to look over the neighbouring fields to appreciate the amount of manure with which the soil is treated, since the agriculturists are now placing the manure on the fields behind the fighting line prior to ploughing it in. One may well look back with envy to the clean soil of the South African veld, much as the dust was then regarded as a bugbear.

*Wounds of Head, Face, and other Parts.*

A large majority of the wounds of the head are the result of injuries caused by shrapnel balls. The German shrapnel is a little smaller in calibre than our own, and cast of lead apparently hardened by some alloy; the tangential wounds are often wide grooves in the scalp with considerable comminution of the bones. When striking directly the ball rarely passes deeply, often lying on the dura, or if it perforates the latter not passing deeply into the brain. Some of the tangential wounds are accompanied by very extensive brain laceration. The fact that most of the wounds are infected before the patients reach the hospital renders them unfavourable cases to deal with at once, but the local conditions as a rule rapidly improve, and then later operations can be undertaken. Wounds of the face and jaws are very common, also extensive injuries of the palate. Shrapnel balls pass through the cheek by comparatively small openings, often of the slit form, while the alveolus or palate may be widely damaged. No special features are presented by the chest injuries, beyond the fact that they are generally more severe than those seen in South Africa, and I think the association of spinal complications without evidence of the ball having actually traversed the vertebral column is more common. A small proportion of perforating wounds of the abdomen which have been accompanied by no untoward symptoms are seen in most of the hospitals. In all these cases the injury has been caused by rifle bullets. Shell wounds of the sacral region are not uncommon and are very distressing; in some the spinal canal is laid open, others are complicated by incontinence of fæces. It is a suggestive fact that few similar injuries of the anterior wall of the abdomen come into hospital,

although an occasional lacerated wound with hernia of the omentum has been seen.

The rarity of division of individual nerves and large blood-vessels has been already remarked upon. After passing through more than a dozen large hospitals I have only seen two false aneurysms, one an arterial hæmatoma of the femoral, and one arterio-venous injury of the posterior tibial vessels. Fractures are numerous and severe, accompanied by large wounds and much comminution, while injuries to the joints are of a gross nature and almost without exception complicated by fracture of the articular ends of the bones.

*Transport Difficulties.*

The difficulties attendant on the transport and treatment of the very large number of wounded have been in themselves immense, and have been further enormously aggravated by the complications dependent on the early backward movement of the troops. Happily the period of more leisurely advance has allowed the establishment of a large number of hospitals in suitable positions, and the heavy task which has devolved upon the medical service of the army is in some measure eased. The problem has been faced with energy and devotion by all concerned, and unfortunately death has exacted a heavy toll on the medical officers employed with the advanced troops.

## THE BRITISH PHARMACOPŒIA, 1914, FROM THE PHARMACEUTICAL POINT OF VIEW.

JUDGED from the pharmaceutical point of view the new Pharmacopœia stands on a much higher level than its immediate predecessor. This was to be expected, in view of the fact that during the 16 years that have gone by since the last edition was published much progress has been made in the science of pharmacy; improved processes for determining the precise quantitative composition of drugs have been devised, as well as more accurate methods for detecting the presence of impurities, while in the manufacturing laboratory much has been achieved that is usefully reflected in the new Pharmacopœia. To those who are not quite so familiar with the 1898 edition as they should be the new work will, perhaps, at first sight, seem to differ in a not very important degree from the one it supersedes, but a careful comparison of the two volumes dispels this impression.

*Changes in the New Pharmacopœia.*

On every page and practically in every monograph changes—some of them based on rational grounds, some rather subtle—have been introduced, and there is hardly a pharmaceutical or analytical process that has not been revised, if not fundamentally changed. The most noticeable alteration, but not the most important, is the discarding of the imperial system of weights and measures in the working directions to pharmacists and analysts. In the last edition both the imperial and the metric systems were employed for computations, and if the opinions of pharmacists were asked it would no doubt be found that in 99 cases out of 100 the metric figures were never used. Presumably the General Medical Council had sufficient reasons for enforcing this change in pharmaceutical practice, but it is not likely to be popular with the older school of chemists, who would have preferred to be allowed a privilege similar to that which has been accorded to medical practitioners for whose benefit doses are stated in both systems. Indisputably, there are sound reasons why the metric system should alone be used in medicine and pharmacy, but the transitional period might possibly have been prolonged a little. Presumably the Council foresee that in the edition which will supersede the Pharmacopœia of 1914 even doses will be given solely in the metric system, and it might therefore be wise for prescribers gradually to accustom themselves to thinking in grammes and centigrams and mils and decimils; "mils," by the way, is the short designation for millimetres—and a common-sense one too.

It is noted in the valuable preface to the work supplied by the Pharmacopœia Committee of the General Medical Council that the "doses" mentioned in the Pharmacopœia are not authoritatively enjoined by the General Medical Council as binding upon prescribers. This has always been understood, but it is just as well that it should be made the subject of an official statement; and incidentally it may be pointed out that medical practitioners would save dispensers from many a perplexity if in ordering unusually large doses they made it clear in some way or other that the large dose was intended, otherwise the doubt might arise as to whether it was due to a slip of the pen. Those practitioners who intend to prescribe in terms of the metric system will, of course, cease to employ the symbols for ounce and drachm; but it will be interesting to observe how many of those who persist in using the imperial system will adopt the recommendation given in the preface that they should cease to employ these symbols in any case. The reasons for these recommendations are sound enough ("the symbol ℥j is often used to represent 60 grains and also to represent the fluid drachm, and the symbol ℥j to represent 480 grains, sometimes 437·5 grains, and also to represent the fluid ounce"), but the use of these symbols has been so long interwoven into the art of prescription writing that it is probable that custom will prevail.

*Drugs and Preparations Omitted or Added.*

Of the 168 drugs and preparations that have been discarded from the Pharmacopœia and Addendum the majority are rarely prescribed, if not almost obsolete. There are a few, however, which are still in frequent use, but the reasons for leaving them out of the official book of medicines are no doubt well founded. Among the better known drugs that have disappeared from the Pharmacopœia the most noticeable is perhaps sarsaparilla; but this root has long been considered to be useless. Gamboge is admittedly too drastic and uncertain; cantharides has been left out, but replaced by its active principle; mustard, figs, hops, and prunes are commercial products needing no definition; jaborandi is left out, but its active principle remains, and the same applies to pomegranate root bark and coca leaves; dandelion extract is commonly regarded as useless, while musk, although largely used for other purposes, is now seldom prescribed as a medicine. Most of the omissions are, in fact, capable of some simple explanation, but it is not easy to suggest reasons for the discarding of several of the drugs in the long list of deletions—for instance, elder flower water, which is commonly prescribed in eye lotions. The fewness of the additions, however, is more surprising than the length of the

list of exclusions. Only 43 drugs and preparations have been introduced, which is about half the number added in 1898. Never in any corresponding length of time in the whole history of medicine have so many new drugs come into use as during the period that has elapsed since the last Pharmacopœia was published. There has been a constant flood of new remedies; hundreds, if not thousands, of them have enjoyed at least a passing vogue, and yet the new Pharmacopœia contains less than a dozen of them, for only a small proportion of the additions come within the category of new remedies. The best known of the substances that have justified their claim for a place are adrenalin, acetylsalicylic acid, diethyl-barbituric acid, chloral formamide, diamorphine hydrochloride, ethyl chloride, hexamethylene-tetramine, methylsalicylate, methylsulphonal, phenolphthalein, benzamine lactate, resorcin, senna pods, and strontium bromide. The desirability of fixing official standards for these commonly prescribed drugs is obvious. The short name adopted for diethyl-barbituric acid (which was first introduced into medicine under the proprietary title of veronal) is barbitone—a good name and one easily remembered; for acetylsalicylic acid no short synonym is given, but the name hexamina for hexamethylene-tretramine will be found useful by prescribers. Diamorphine chloride is more familiar under the short trade-mark name of heroin, while benzamine lactate is more familiar as β eucaine, and methylsulphonal as trional.

*Alterations in Strengths of Preparations, &c.*

Of equal importance to the lists of omissions and additions are the alterations that have been made in the strengths of some 40 of the official preparations. In many instances these changes have been necessitated by the decision of the General Medical Council to adopt most of the recommendations of the International Conference on the Unification of the Formulæ of Potent Drugs and Preparations. It is essential that medical practitioners should carefully examine the changes in the strength of such galenical preparations as the tinctures of aconite, belladonna, colchicum, digitalis, nux vomica, opium, and strophanthus. In prescribing these tinctures it must be borne in mind that the difference between the potency of the preparations of the Pharmacopœia of 1914 and that of 1898 are considerable. Thus, the new tincture of strophanthus is four times the strength of the old; the new tincture of opium is 33 per cent. stronger than the old; while the new tincture of nux vomica is half the strength of the old; and in the strengths of all the potent tinctures there are changes of at least minor importance. The modifications in the names of some 38 substances do not constitute a very important feature of the new work, while the alterations in the directions for the preparation of some 50 compounds interest the manufacturing chemist rather than the medical practitioner or the pharmacist. The fixing of limits to the proportion of lead and arsenic permissibly present as impurities in some 90 pharmaceutical substances is a step that has long been advocated by chemists, and it is satisfactory to note that this step has been taken.

The number of crude drugs and of their galenical preparations which are required to contain a definite proportion of the chief active constituent or constituents has been increased. Thus, belladonna leaves are required to contain not less than 0·3 per cent. of alkaloids; nux vomica is adjusted to contain 1·25 per cent. of strychnine, as that alkaloid is practically the only toxic alkaloid present, brucine being much less important from the medicinal point of view; aconite root must contain not less than 0·4 per cent. of ether soluble alkaloids; and most of the potent drugs and preparations are standardised where possible. With the object apparently of encouraging uniformity in the writing of prescriptions abbreviations of Latin titles of drugs and preparations have been adopted in the Index. It is true that some of the abbreviated names—such, for instance, as acac. cort. (for acaciæ cortex), acid. bor. (for acidum boricum), scill. (for scilla), and trag. (for tragacantha)—are not elegant, but if the list is found useful to prescribers and dispensers it will serve its purpose. The monographs on the volatile oils and fixed oils bear evidence of very thorough revision.

The new Pharmacopœia is remarkable for the changes that have been made with the object of rendering it more precise, and a careful examination of the volume yields convincing evidence that an immense amount of work has been accomplished by the committee of reference in pharmacy, whose valuable help has been acknowledged in the preface.

## THE SERVICES.

### ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Staff-Surgeon: E. C. Sawdy to the *Vivid*, additional, for disposal. Surgeons: R. A. Brown to the *Audacious*, temporarily; and R. M. Riggall to the *Pembroke*, for Royal Naval Barracks. Temporary Surgeons: F. Nunneley to the *Dreadnought*; and G. P. O'Donnell to the *Vivid*, additional, for Devonport Dockyard.

Surgeon Probationers for temporary service: S. R. Prall, J. A. D. Skinner, A. F. G. Guinness, J. M. Harrison, E. D. Brooter, R. N. Craig, M. H. K. Kane, A. G. Lennon-Browne, E. A. Holmes, S. E. Y. Elliott, H. G. Stormer, W. B. Heywood-Waddington, G. F. Cobb, L. S. Fry, F. G. Tweedie-Lewtas, R. H. Clarke, W. G. S. Neely, C. Y. Roberts, S. J. L. Lindeman, G. E. Heath, R. G. Morgan, and H. W. L. Molesworth.

### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon: J. K. Murphy promoted to Staff-Surgeon, with seniority of Sept. 25th.

Temporary commissions in the Royal Naval Volunteer Reserve have been issued as follows:—To be Surgeon: Arthur Craigie McVittie and William Andrew Mallam (dated Oct. 3rd).

The undermentioned has been appointed Surgeon: William James Aitken Quine (dated Oct. 4th).

### ARMY MEDICAL SERVICE.

The undermentioned to be temporary Colonels:—Dated Sept. 16th: Lieutenant-Colonel George H. Makins, C.B., 2nd London (City of London) General Hospital, Royal Army Medical Corps, Territorial Force; and Lieutenant-Colonel Sir Anthony A. Bowlby, C.M.G., 1st London (City of London) General Hospital, Royal Army Medical Corps, Territorial Force.

### ROYAL ARMY MEDICAL CORPS.

Supernumerary Captain Archer Irvine-Fortescue, from the seconded list, is restored to the establishment (dated Sept. 25th). Frederick F. Bond, St. John Ambulance Brigade, Bearer Companies, to be temporary Captain (dated Sept. 25th).

The undermentioned officers, Home Hospitals Reserve, to be temporary Captains:—Dated August 6th: A. M. Wood, A. G. Price, G. W. Simla Paterson, J. G. McColl, W. L. Lyall, A. T. Campbell, W. W. Fyfe, J. A. Gray, R. J. Johnston, and G. Melville. Dated August 8th: W. C. Stevenson. Dated August 12th: C. T. W. Hirsch. Dated August 14th: W. F. Croll. Dated August 25th: J. M. Young.

The undermentioned to be temporary Lieutenants:—Dated Sept. 26th: David Hamilton Hadden, John Aquila MacMahon, Douglas Wardleworth, Kenneth Chisolm Middlemiss, Charles Lovell Spackman, Robert William Lang Todd, Morton Peto, William Brown, Francis Wardlaw Milne, Charles Walter Gordon Bryan, and Allan Ncel Minns. Dated Sept. 28th: Maurice Fitzmaurice-Kelly and James Leslie Ruthven Philip. Dated Sept. 30th: Frederick Bernardus Dreyer.

### SPECIAL RESERVE OF OFFICERS.

*Royal Army Medical Corps.*

The undermentioned Cadets and ex-Cadets of the Officers Training Corps to be Lieutenants (on probation):—Eric Catford, William Oliver Lodge, Cyril Jacobs, Gordon Alexander Hodgson, Samuel Drummond Greer McEntire, Gerald Graham Alderson, Pensam Thornton, Bryan Montague Tuke, Alfred Percy Smith, James Calvert Spence, and John Edwin Allan.

The undermentioned to be Lieutenants (on probation):—John Percy Litt, John Paulley, Richard Pitt Ballard, William Wood Shorten, Alexander Lawrence Robb, Robert Hay, John Cowan, Griffith Lewis Jones, William Hern Cornelius, Frank Sykes, Samuel Armstrong Lane, Leslie Herbert Worthy Williams, James Macallan, Kingsley Wassell Lewis, Charles Layton Balkwill, William Hopper Shephard, Herbert Smith, Robert Godfrey Martyn, Frederick Vivian Bevan-Brown, Cecil John Rogerson, Patrick Joseph Corcoran, William McCombie, Norman Cameron, John Revie Caldwell, Claude Joscelyn Delaberé May, William John Sivewright Ingram, Armando Dumas Child, Jeremiah John Magner, Hector Smith, John Alfred Ryle, and Kingsley Louis O'Sullivan.

*Supplementary to Regular Units or Corps.*—The undermentioned Cadets and ex-Cadets of the Officers Training Corps to be Lieutenants (on probation):—Arthur Joseph Beveridge, George Albert Clark, Carl Damien Newman, Norman Braithwaite, Charles Frederick Hacker, James Kenworthy Johnston Haworth, Laurence Heber Warneford Iredale, Frank Miller Rorie, Cedric Overton Shackleton, Gilbert Wolridge Rose, William Dinsdale Anderton, Roland Harris Graham, Charles Arthur Wilson Ramsay, George Marsden Roberts, James McKay, James York Moore, William Blacker Cathcart, Hugh Gregan Crawford, William Barry Postlethwaite, James Salmond Robinson, John Edward Foley, Robert Patrick Archibald Kirkland, William Leonard Eliot Reynolds, Grantly Dick Read, Arthur Frederick Isbell Patterson, and Gerald Patrick Kidd.

The undermentioned to be Lieutenants (on probation):—Thomas Copeland Storey, William Alexander MacLellan, George Henry Chavasse Mold, John Francis Hill, Gerald Conroy Dixon, Charles Frank Burton, John Newton McIntosh, Stuart Dewar Robertson, Richard Harold Hodges, Thomas Knowles Boney, George Frederick Clifton, Ernest Frederick Guy, Charles Harry Greville Penny, Thomas Whittle Martin, James Elliot Black, Edwin Cyril Widmerpoole Starling, John Stanley Cocks, Gerald Thomas Mullally, and Robert Cathcart Ozanne.

### TERRITORIAL FORCE.

*Royal Army Medical Corps.*

1st Highland Field Ambulance: William Henry Eden Brand to be Lieutenant.

2nd Home Counties Field Ambulance: Captain William H. Flint to be Major.

3rd Northumberland Field Ambulance: Lieutenant George H. Watson, from Attached to Units other than Medical Units, to be Lieutenant.

*Attached to Units other than Medical Units.*—To be Captains: Lieutenant Dudley R. Harris and Lieutenant Frederick A. W. Drinkwater. To be Lieutenants: Charles Butler, William Leslie Burgess, and Frank Winter Lawson.

### JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

Among the contents of this journal for September is an article on the Bacteriological Examination of Waters in the Field, by Major P. S. Lelean, which will be read with particular interest at a time when a practical knowledge of the subject is so important. Major Lelean records the results which he obtained during a recent reconnaissance of the water sources in a manœuvre area when he visited 93 towns and villages and obtained data with regard to 289 samples of water. He clearly describes the equipment necessary for the work and the routine which he followed, and lays stress on the assistance which medical officers in charge of sanitary districts on the lines of communication would have by a knowledge of the normal bacterial content of the water-supplies of the camps. Major J. B. Anderson supplies some interesting notes on trooping season 1914–1915, and in the clinical department of the journal there is a description of a bacillus very closely related to B. typhosus which was isolated from a blood culture. The section of this journal devoted to travel is always interesting, and this month's "Glimpses in the Netherlands, 1913," by Colonel J. M. Beamish, with its brief descriptions of Bruges, Ghent, Amsterdam, Rotterdam, and The Hague, especially appeals to us at the present moment. God's Acre in North-West India, by Colonel R. H. Firth, is the first instalment of a record of the names, the careers, and details as to the graves of, or monuments to, all the medical officers buried or memorialised in the Punjab, the North-West Frontier Provinces, and Kashmir.

### WEST AFRICAN MEDICAL STAFF.

The deaths are announced of Dr. T. P. Fraser (killed in action) and Dr. J. A. Harley.

# VITAL STATISTICS.

### HEALTH OF ENGLISH TOWNS.

In the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census, 9246 births and 5441 deaths were registered during the week ended Saturday, Sept. 26th. The annual rate of mortality in these towns, which had been 14·4, 15·2, and 15·1 per 1000 of their aggregate population, estimated at 18,120,059 persons at the middle of this year, rose to 15·7 per 1000 in the week under notice. During the 12 weeks of the quarter the mean annual death-rate in these towns averaged 13·1, against 13·2 per 1000 in London. Among the several towns the death-rate in the week under notice ranged from 6·2 in Southend-on-Sea, 6·6 in Eastbourne, 6·7 in Bournemouth, 7·9 in Swindon, and 8·1 in Ealing, to 22·7 in Middlesbrough, 22·9 in South Shields, 23·2 in Liverpool, 23·8 in St. Helens, 31·0 in Gateshead, and 34·8 in Wigan.

The 5441 deaths from all causes were 182 above the number in the previous week, and included 1189 which were referred to the principal epidemic diseases, against numbers steadily increasing from 394 to 1437 in the 11 preceding weeks. Of these 1189 deaths, 1004 resulted from infantile diarrhœal diseases, 56 from diphtheria, 50 from measles, 40 from whooping-cough, 23 from scarlet fever, 16 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 3·4, against 4·0 and 4·1 per 1000 in the two preceding weeks. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had steadily increased from 112 to 1223 in the 11 preceding weeks, fell to 1004 in the week under notice, of which 245 were registered in London, 106 in Liverpool, 47 in Birmingham, 46 in Manchester, 32 in Stoke-on-Trent, 29 in Newcastle-on-Tyne, and 21 in Sheffield and in Sunderland. The deaths referred to diphtheria, which had increased from 31 to 53 in the six preceding weeks, further rose to 56 in the week under notice, and included 18 in London, 4 in Leeds, and 2 each in Plymouth, Devonport, Birmingham, Liverpool, and Cardiff. The fatal cases of measles, which had declined from 111 to 64 in the six preceding weeks, further fell to 50; 24 deaths occurred in London, 5 in Oldham, and 3 in Liverpool. The deaths attributed to whooping-cough, which had been 69, 51, and 50 in the three preceding weeks, further declined to 40, and included 13 in London, 3 in Liverpool, and 3 in Leeds. The deaths referred to scarlet fever, which had been 25, 39, and 27 in the three preceding weeks, further fell to 23, of which 7 were recorded in Manchester, 5 in London, and 2 in Salford. The fatal cases of enteric fever, which had been 17, 16, and 20 in the three preceding weeks, fell to 16, and included 2 in Hull.

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had increased from 3071 to 3669 in the five preceding weeks, had further increased to 3964 on Sept. 26th; 674 new cases were admitted during the week, against 548, 619, and 551 in the three preceding weeks. These hospitals also contained on the 26th 1259 cases of diphtheria, 55 of enteric fever, 32 of whooping-cough, and 18 of measles, but not one of small-pox. The 1343 deaths from all causes in London were 5 fewer than the number in the previous week, and corresponded to an annual death-rate of 15·5 per 1000. The deaths referred to diseases of the respiratory system, which had been 128, 132, and 110 in the three preceding weeks, rose to 140 in the week under notice, and were 15 in excess of the number in the corresponding week of last year.

Of the 5441 deaths from all causes in the 97 towns, 173 resulted from various forms of violence, and 357 were the subject of coroners' inquests, while 1547 occurred in public institutions. The causes of 44, or 0·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Sheffield, Bristol, West Ham, Bradford, Hull, Portsmouth, and in 70 other smaller towns. Of the 44 uncertified causes of death, 9 were registered in Liverpool, 6 in Birmingham, 4 in Gateshead, 3 in London, 3 in Newcastle-on-Tyne, and 2 each in West Bromwich, St. Helens, and South Shields.

In the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census, 8659 births and 4966 deaths were registered during the week ended Saturday, Oct. 3rd. The annual rate of mortality in these towns, which had been 15·2, 15·1, and 15·7 per 1000 of their aggregate population estimated at 18,120,059 persons at the middle of this year, declined to 14·3 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 13·2, against 13·3 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 3·0 in Dudley, 5·6 in Gillingham, 7·2 in Cambridge, 7·7 in Oxford, and 8·2 in Hornsey, to 21·2 in Tynemouth, 21·6 in Warrington, 21·8 in Great Yarmouth and in Wakefield, 22·0 in Stockton-on-Tees, and 22·3 in Birkenhead.

The 4966 deaths from all causes were 475 fewer than the number in the previous week, and included 877 which were referred to the principal epidemic diseases, against 1437 and 1189 in the two preceding weeks. Of these 877 deaths, 651 resulted from infantile diarrhœal diseases, 63 from diphtheria, 61 from measles, 50 from whooping-cough, 29 from scarlet fever, and 23 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·5, against 3·4 per 1000 in the previous week. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 1172, 1223, and 1004 in the three preceding weeks, further declined to 651 last week, of which 183 were registered in London, 60 in Liverpool, 30 in Manchester, 26 in Stoke-on-Trent, 19 in Birmingham, 17 in Hull, 15 in Sheffield, and 12 each in Newcastle-on-Tyne and St. Helens. The deaths referred to diphtheria, which had steadily increased from 31 to 56 in the seven preceding weeks, further rose to 63 last week, and included 19 in London, 6 in Stoke-on-Trent, 4 each in Birmingham and Middlesbrough, 3 in Leyton, and 2 each in West Ham, Portsmouth, Blackburn, and Leeds. The fatal cases of measles, which had declined from 111 to 50 in the seven preceding weeks, rose to 61 last week; 19 deaths were recorded in London, 5 each in Birmingham and Birkenhead, 4 in Leeds, and 3 in Liverpool. The deaths attributed to whooping-cough, which had fallen from 69 to 40 in the four preceding weeks, rose to 50 last week, and included 12 in London, 5 in Newcastle-on-Tyne, and 4 each in Nottingham and Liverpool. The deaths referred to scarlet fever, which had been 39, 27, and 23 in the three preceding weeks, rose to 29 last week; 5 deaths were recorded in London, 5 in Birmingham, 4 in Manchester, and 2 each in Tottenham, Smethwick, Preston, and Sheffield. The fatal cases of enteric fever, which had been 16, 20, and 16 in the three preceding weeks, rose to 23 last week, of which 4 each occurred in London and Hull, and 3 in South Shields.

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had increased from 3071 to 3964 in the six preceding weeks, had further risen to 4196 on Saturday last; 640 new cases were admitted during the week, against 619, 551, and 674 in the three preceding weeks. These hospitals also contained on Saturday last 1307 cases of diphtheria, 61 of enteric fever, 34 of whooping-cough, and 26 of measles, but not one of small-pox. The 1291 deaths from all causes in London were 52 fewer than the number in the previous week, and corresponded to an annual death-rate of 14·9 per 1000. The deaths referred to diseases of the respiratory system, which had been 132, 110, and 140 in the three preceding weeks, rose to 157 in the week under notice, and were 23 in excess of the number in the corresponding week of last year.

Of the 4966 deaths from all causes in the 97 towns, 163 resulted from various forms of violence, and 330 were the subject of coroners' inquests, while 1498 occurred in public institutions. The causes of 36, or 0·7 per cent., of the total deaths, were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Portsmouth, and in 70 other smaller towns. Of the 36 uncertified causes of death, 4 each were registered in Birmingham and Liverpool, 3 each in Rochdale and Gateshead, and 2 each in Nottingham, Bootle, St. Helens, and Sheffield.

## HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1157 births and 699 deaths were registered during the week ended Saturday, Sept. 19th. The annual rate of mortality in these towns, which had increased from 13·8 to 16·5 per 1000 in the five preceding weeks, declined to 15·9 per 1000 in the week under notice. During the first eleven weeks of the quarter the mean annual death-rate in these towns averaged 14·2, against 12·9 per 1000 in the 97 large English towns. Among the several towns the death-rate during the week ranged from 7·6 in Motherwell, 9·4 in Ayr, and 10·2 in Kirkcaldy, to 18·4 in Perth, 21·8 in Coatbridge, and 23·0 in Hamilton.

The 699 deaths from all causes were 28 fewer than the number in the previous week, and included 119 which were referred to the principal epidemic diseases, against numbers steadily increasing from 49 to 137 in the seven preceding weeks. Of these 119 deaths, 96 resulted from infantile diarrhœal diseases, 8 from whooping-cough, 6 from scarlet fever, 4 from diphtheria, 3 from enteric fever, and 2 from measles, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·7, against 4·1 per 1000 in the 97 large English towns. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had steadily increased from 29 to 101 in the six preceding weeks, declined to 96, of which 54 were registered in Glasgow, 11 in Dundee, 10 in Edinburgh, 4 in Greenock, 4 in Hamilton, 3 in Coatbridge, and 3 in Kilmarnock. The deaths referred to whooping-cough, which had been 15, 16, and 16 in the three preceding weeks, fell to 8, and included 6 in Glasgow. The fatal cases of scarlet fever, which had been 8, 4, and 12 in the three preceding weeks, fell to 6, of which 4 occurred in Glasgow. The 4 deaths attributed to diphtheria were slightly below the average in the earlier weeks of the quarter, and comprised 2 each in Edinburgh and Aberdeen. The 3 deaths from enteric fever were equal to the average in the earlier weeks, and comprised 2 in Glasgow and 1 in Greenock. The 2 fatal cases of measles were registered in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 70, 65, and 73 in the three preceding weeks, declined to 62 in the week under notice; 33 deaths were attributed to different forms of violence, against 30 and 23 in the two preceding weeks.

In the 16 largest Scotch towns 1124 births and 717 deaths were registered during the week ended Saturday, Sept. 26th. The annual rate of mortality in these towns, which had been 16·0, 16·5, and 15·9 per 1000 in the three preceding weeks, rose to 16·3 per 1000 in the week under notice. During the 12 weeks of the quarter the mean annual death-rate in these towns averaged 14·4, against 13·1 per 1000 in the large English towns. Among the several towns the death-rate in the week under notice ranged from 7·3 in Kilmarnock, 12·5 in Falkirk, and 12·6 in Motherwell and in Ayr, to 7·4 in Greenock, 17·7 in Glasgow, and 19·4 in Paisley.

The 717 deaths from all causes were 18 in excess of the number in the previous week, and included 128 which were referred to the principal epidemic diseases, against 137 and 119 in the two preceding weeks. Of these 128 deaths, 87 resulted from infantile diarrhœal diseases, 13 from whooping-cough, 12 from scarlet fever, 9 from diphtheria, 4 from enteric fever, and 3 from measles, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·9, against 3·4 per 1000 in the large English towns. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 89, 101, and 96 in the three preceding weeks, further fell to 87 in the week under notice, of which 54 were registered in Glasgow, 9 in Edinburgh, 8 in Dundee, 5 in Greenock, and 3 in Motherwell. The deaths referred to whooping-cough, which had been 16, 16, and 8 in the three preceding weeks, rose to 13, and included 11 in Glasgow. The fatal cases of scarlet fever, which had been 4, 12, and 6 in the three preceding weeks, rose to 12, and included 5 in Glasgow, 3 in Aberdeen, and 2 in Edinburgh. The deaths attributed to diphtheria, which had been 8, 6, and 4 in the three preceding weeks, rose to 9, of which 5 were recorded in Aberdeen and 2 in Glasgow. The 4 deaths referred to enteric fever were slightly in excess of the average in the earlier weeks of the quarter, and comprised 2 in Glasgow, and 1 each in Aberdeen and Kilmarnock. The fatal cases of measles were recorded in Glasgow, Dundee, and Greenock.

The deaths referred to diseases of the respiratory system, which had been 65, 73, and 62 in the three preceding weeks, slightly rose to 64 in the week under notice; 20 deaths resulted from various forms of violence, against 23 and 33 in the two preceding weeks.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1110 births and 687 deaths were registered during the week ended Saturday, Oct. 3rd. The annual rate of mortality in these towns, which had been 16·5, 15·9, and 16·3 per 1000 in the three preceding weeks, declined to 15·6 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 14·4, against 13·2 per 1000 in the 97 large English towns. Among the several towns the death-rate during the week ranged from 10·8 in Hamilton, 13·8 in Edinburgh and in Perth, and 14·0 in Kirkcaldy, to 18·1 in Greenock, 18·2 in Coatbridge, and 19·8 in Dundee.

The 687 deaths from all causes were 30 fewer than the number in the previous week, and included 92 which were referred to the principal epidemic diseases, against 119 and 128 in the two preceding weeks. Of these 92 deaths, 52 resulted from infantile diarrhœal diseases, 13 from whooping-cough, 12 from scarlet fever, 9 from diphtheria, 4 from enteric fever, and 2 from measles, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·1, against 2·5 per 1000 in the 97 large English towns. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 101, 96, and 87 in the three preceding weeks, further fell to 52 last week, of which 28 were registered in Glasgow, 9 in Edinburgh, 5 in Dundee, and 2 in Greenock. The deaths referred to whooping-cough, which had been 16, 8, and 13 in the three preceding weeks, were again 13 last week, and included 11 in Glasgow. The fatal cases of scarlet fever, which had been 12, 6, and 12 in the three preceding weeks, were again 12 last week; 3 deaths occurred in Glasgow, 3 in Aberdeen, and 2 in Dundee. The deaths attributed to

diphtheria, which had been 6, 4, and 9 in the three preceding weeks, were again 9 last week, and included 4 in Aberdeen and 2 in Glasgow. The 4 deaths referred to enteric fever, of which 2 were recorded in Glasgow, were slightly in excess of the average in the earlier weeks of the quarter. The fatal cases of measles occurred in Glasgow and Aberdeen.

The deaths referred to diseases of the respiratory system, which had been 73, 62, and 64 in the three preceding weeks, rose to 71 in the week under notice; 27 deaths resulted from various forms of violence, against 33 and 20 in the two preceding weeks.

### HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,205,280 persons at the middle of this year, 598 births and 443 deaths were registered during the week ended Saturday, Sept. 26th. The annual rate of mortality in these towns, which had been 18·1, 17·0, and 19·9 per 1000 in the three preceding weeks, fell to 19·2 per 1000 in the week under notice. During the 12 weeks of the quarter the mean annual death-rate in these towns averaged 16·8, against corresponding rates of 13·1 and 14·4 per 1000 in the English and Scotch towns respectively. The annual death-rate in the week under notice was equal to 18·4 in Dublin (against 15·5 in London and 17·7 in Glasgow), 22·1 in Belfast, 22·4 in Cork, 22·8 in Londonderry, 23·0 in Limerick, and 17·1 in Waterford, while in the 21 smaller towns the mean death-rate was 21·7 per 1000.

The 443 deaths from all causes were 16 fewer than the number in the previous week, and included 92 which were referred to the principal epidemic diseases, against 89 and 97 in the two preceding weeks. Of these 92 deaths, 71 resulted from infantile diarrhœal diseases, 9 from whooping-cough, 5 from measles, 3 from diphtheria, and 2 each from enteric fever and scarlet fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 4·0, against corresponding rates of 3·4 and 2·9 per 1000 in the English and Scotch towns respectively. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 74, 71, and 74 in the three preceding weeks, fell to 71 in the week under notice and included 44 in Belfast, 13 in Dublin, 4 each in Cork and Londonderry, and 3 in Newtownards. The deaths referred to whooping-cough, which had been 3, 7, and 4 in the three preceding weeks, rose to 9, and included 4 in Belfast and 3 in Cork. The 5 fatal cases of measles, of which 4 occurred in Belfast, were 3 below the average in the earlier weeks of the quarter. Of the 3 deaths attributed to diphtheria, 2 were recorded in Dublin and 1 in Tralee; the 2 fatal cases of scarlet fever occurred in Belfast, and those of enteric fever in Dublin and Belfast.

The deaths referred to diseases of the respiratory system, which had been 49, 35, and 50 in the three preceding weeks, rose to 56 in the week under notice. Of the 443 deaths from all causes, 123, or 28 per cent., occurred in public institutions, and 10 resulted from different forms of violence. The causes of 16, or 3·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 English towns the proportion of uncertified causes in the week under notice did not exceed 0·8 per cent.

In the 27 town districts of Ireland with an aggregate population estimated at 1,205,280 persons at the middle of this year, 676 births and 401 deaths were registered during the week ended Saturday, Oct. 3rd. The annual rate of mortality in these towns, which had been 17·0, 19·9, and 19·2 per 1000 in the three preceding weeks, further fell to 17·3 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 16·9, against corresponding rates of 13·2 and 14·4 per 1000 in the English and Scotch towns respectively. The annual death-rate last week was equal to 15·1 in Dublin (against 14·9 in London and 15·5 in Glasgow), 17·4 in Belfast, 14·3 in Cork, 14·0 in Londonderry, 16·2 in Limerick, and 17·1 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 13·5 per 1000.

The 401 deaths from all causes were 42 fewer than the number in the previous week, and included 53 which were referred to the principal epidemic diseases, against 97 and 92 in the two preceding weeks. Of these 53 deaths, 41 resulted from infantile diarrhœal diseases, 6 from whooping-cough, 2 from diphtheria, 2 from scarlet fever, and 2 from enteric fever, but not one from small-pox or from measles. The mean annual death-rate from these diseases was equal to 2·3, against 2·5 and 2·1 per 1000 in the English and Scotch towns respectively. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 71, 74, and 71 in the three preceding weeks, further declined to 41 last week, and included 21 in Belfast, 11 in Dublin and 4 in Cork. The deaths referred to whooping-cough, which had been 7, 4, and 9 in the three preceding weeks, fell to 6 last week, of which 4 occurred in Belfast. The deaths from diphtheria were registered in Dublin and Bangor, those from scarlet fever in Belfast and Limerick, and those from enteric fever in Dublin and Belfast; the number was in each case slightly below the average in the earlier weeks of the quarter.

The deaths referred to diseases of the respiratory system, which had been 35, 50, and 56 in the three preceding weeks, further rose to 58 in the week under notice. Of the 401 deaths from all causes, 127, or 32 per cent., occurred in public institutions, and 7 resulted from different forms of violence. The causes of 21, or 5·2 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 English towns the proportion of uncertified causes last week did not exceed 0·7 per cent.

## WAR AND THE DANGER FROM CHOLERA AND PLAGUE IN THE NEAR EAST.

(BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

FIVE of the great Powers of Europe (England, France, Russia, Germany, and Austria), one great Power in the Far East (Japan), and three of the smaller European Powers (Belgium, Serbia, and Montenegro) are now involved in war—a war that is already not only the most colossal but also the most deadly that the world has ever seen. Deadly, not only on account of the enormous death-dealing powers that science has put into the hands of modern armies, but also on account of the angry passions aroused—passions that have been embittered a thousandfold by the atrocities committed against humanity and civilisation by one of the principal combatants. And to these death-dealing forces disease will most assuredly be added sooner or later. The experience of the next few months will show how far modern military medicine and hygiene have succeeded in keeping under enteric fever, dysentery, diarrhœa, and the many other disorders that have ravaged armies in almost all former wars. That these diseases will prevail to some extent is inevitable. Should cholera or plague be added to them the results will be still more disastrous.

In my last letter (published in THE LANCET of August 1st, p. 337) I showed that cholera had already made its reappearance in Russia, and now a more serious extension of the disease there has to be reported. In Turkey cholera was admittedly present, in and near Adrianople and elsewhere, as late as May last, and there is reason to believe that cases of the disease have recently occurred in and near Constantinople without being reported by the authorities. In Austria and in Roumania cholera was prevalent to a considerable extent in 1913; it only disappeared from those countries towards the end of the year, and a fresh revival of the disease there is far from impossible. But while the risk of a serious extension of cholera in Europe owing to the war cannot be excluded, that risk may be regarded as very greatly diminished by the fact, upon which I have dwelt before, that the present cholera virus in Europe is one which appears to have lost to a great extent its primitive force and virulence, owing, no doubt, to the long period that has elapsed since it was introduced into Europe from the endemic home of cholera in India.

Plague is a disease that offers far less menace to fighting forces than does cholera. Even the pneumonic form of the disease is scarcely likely to sweep over an army in the field; but the possibility of the infection, both in its bubonic and its pneumonic form, being diffused widely as a result of the war, and especially of its attacking refugees herded together under insanitary conditions, cannot be wholly lost sight of. I have added, therefore, to the following brief summary of recent cholera prevalence in the Near East a survey of the various outbreaks of plague that have been recorded in the same part of the world during the past few months.

### *Cholera in Russia.*

As stated in my last letter on this subject, a fatal case of cholera was seen at Kherson on July 9th; no further cases of the disease have been reported from here. But in the government of Podolia there has been a more extensive outbreak. It began on July 2nd (15th), and the districts of Yampol and Vinnitza seem to have been the most seriously affected. According to a bulletin issued in the *Official Messenger* of July 25th (August 8th), there had occurred up to

that date in the Podolia government 303 cases of cholera with 115 deaths. Of these, 241 cases and 84 deaths had been registered in the Vinnitza district; 52 cases and 28 deaths in the Yampol district; 8 cases and 3 deaths in the Litinsk district; and 2 cases in that of Bratslav. A later bulletin, dated August 19th (Sept. 1st), states that only isolated and sporadic cases of cholera had been seen in the interval, and that cholera had completely disappeared from most of the infected places formerly mentioned. On the other hand, some cases of cholera had been seen in the Ouman district of the Kief government, but no fresh case had been reported for five days. It had been rumoured that cholera was present in Batoum and other Russian ports of the Black Sea, but this was officially denied by the Russian Government on Sept. 5th.

*Rumoured Cholera in Turkey and the Mobilisation.*

After the Great Powers declared war (or began it without a declaration) Turkey lost no time in mobilising practically the whole of her army. The mobilisation has been on a larger scale, more thorough, more virulent, if the expression may be permitted, than even that of two years ago, when this country was truly at war. No one has been spared; requisitions have been carried out ruthlessly, with little regard for the law on the subject, whether local or international. Some half million or more of men are now in barrack and camp on a war footing, mostly in Adrianople and in other places on the European side of the Bosphorus and Dardanelles. If but one half of the stories be true that are widely repeated respecting the lack of food, proper clothing, and other necessaries from which these troops suffer, the condition of the latter must be lamentable indeed. No doubt most of these stories are exaggerated, but it is certain that the men are for the most part very badly found in food and other necessaries, and should cholera appear among them it might well cause a serious epidemic. For some time past it has been persistently rumoured that cases of the disease have occurred, first at Eski-shehir, in Asia Minor, then at Tchamlidja, one of the hills near the capital overlooking the Bosphorus, and now in Constantinople itself. Officially, nothing is published as to the truth or untruth of these rumours, but when inquiries are made the reply is carefully worded to the effect that no cases of cholera have occurred "among the civil population."

*Cholera (?) in Serbia.*

A telegram to the press from Salonica, dated Sept. 13th stated that cholera was prevalent at Nisch, where "many cases have already been observed." This is, however, denied by a press agency telegram from Nisch itself, dated Sept. 19th, which states that not a single case of cholera has been seen there.

*Plague in Beirût and the Lebanon.*

A few sporadic cases of plague have been observed in or near Beirût since as long ago as October, 1913. On the 27th of that month the first recorded case was seen in a village called Keferchina, situated in the Lebanon, at a distance of two hours from the town of Beirût. The patient was a dock labourer, but no evidence has been furnished as to the source of the infection. A month later, on Nov. 26th, another case was reported, occurring in Beirût itself; the patient was a factory hand. On Dec. 8th a soldier in the Beirût garrison fell ill with the disease, and a second case among the troops occurred on the 13th. The diagnosis in all the cases in the town itself was confirmed bacteriologically. No further case was heard of until May 16th, 1914, when a pupil at the English boys' school was found to be suffering from plague; the boy died on the 17th. On June 16th yet another case was seen; the patient was a man aged 45, a merchant living in the centre of the town; in this, as also in the preceding case, there was bacteriological proof that the disease was plague. On July 6th a mild case was reported, occurring in the south-east quarter of the town; and this was followed by other cases on July 25th, on August 2nd, and on August 23rd.

*Plague in Jaffa and Caiffa.*

On May 30th a negro "hamal," or porter, a resident in Jaffa, was found to be suffering from plague, and on the same day the body of another negro was discovered, presenting the external appearances of having died from plague. There followed two more cases on June 4th, one on the 8th, one on the 9th, and one on the 26th, since when Jaffa appears to have been free from the disease. It is remarkable that all these seven cases occurred in negroes and all apparently in the same quarter of the town. The source of the infection was not traced. In most, if not all, of the cases there was bacteriological proof of the nature of the disease. On August 29th a suspected case of plague was reported from Caiffa, but its exact nature was never confirmed.

*Plague in Tripoli (Syria).*

Only a single case has been reported from Tripoli; it was first seen on June 14th, but the patient, a grocer, was then said to have been ill for seven days.

*Plague and Cholera in Greece and in the Islands of the Ægean.*

The uncertain political status of many islands of the Ægean has led, among other results, to considerable difficulty in obtaining definite information as to their sanitary state, in respect of the presence or absence of epidemic diseases. Rhodes and the islands of the Dodecanese are in Italian occupation; Chios, Mitylene, and others are in Greek occupation, and few remain definitely in Turkish possession. Rumours of the existence of plague in Chios began to be heard as long ago as May. It seems to have been a fact that four cases of the disease did occur then; but how many more (if any) followed has remained uncertain. Early in August plague was again stated—on no very certain authority—to be present in Chios and in Samos, but no figures were made known, and it was not wholly unsuspected that the report of the existence of the disease in those islands was made with a political rather than with a purely sanitary object. On August 30th the Turkish Legation in Athens telegraphed to the effect that 12 persons arriving at the Piræus from Chios and Mitylene had been found to be suffering from plague and had been isolated at the village of Daphne, near to the Piræus. The telegram added that many cases of the disease were still occurring in Chios and Mitylene; but there has been no confirmation of this from other sources. On Sept. 3rd the Turkish Vice-Consul in the island of Syra (in the Cyclades) reported that a case of plague had occurred there on the 2nd, and that the patient had died on the 3rd. Finally, on Sept. 12th the Turkish Consul-General at Salonika reported that seven cases of plague had been observed there, three of the patients being soldiers and the other four immigrants. No intimation of this outbreak has, however, yet been received from the Greek authorities. On August 5th the Turkish Consul-General at Janina reported that a suspected and fatal case of cholera had occurred there. No subsequent information has been received respecting this case.

*Plague in Smyrna.*

The first known case of plague in Smyrna seems to have been that of a police official charged with the supervision of dock labourers; he died on the night of July 15th–16th, after three days' illness. On Sept. 2nd another case was reported. The patient, a woman, had been ill since August 22nd, and there was some doubt as to the real nature of the case. Two more cases were reported on Sept. 7th, and the same day it was announced that a grain merchant, who had died on the 5th with uræmic symptoms, had died from plague.

*Plague in Adalia.*

On July 31st a case of plague was seen in Adalia, on the south coast of Asia Minor, where, it will be recalled, sporadic cases of the disease have occurred almost every summer for many years past.

*Plague in Jeddah.*

The first case of plague in this year's revival of the disease in Jeddah was seen on Feb. 2nd. Between that date and March 11th some six cases in all were reported—a strikingly small number as compared with other recrudescences of the disease here in recent years.

*Plague in Basra and on the Tigris.*

On May 25th a case of plague was observed in Basra, the patient being a grocer. The following day three fresh cases were admitted to the American hospital (situated on the canal which joins the town of Basra to the great Shatt-ul-Arab river). These were followed by several other cases, and between the date named and July 17th 20 cases, with 12 deaths, were recorded. It may be added that one of these cases occurred on the premises of the principal

British navigation company in those waters, and that several dead rats were found on these same premises. On June 23rd the dead body of a passenger on one of the river boats that ply between Basra and Bagdad was landed at Kut-el-Amara, one of the principal places of call of these steamers, three days' voyage from Basra (on the upward journey). Fortunately there was no spread of the disease in Kut-el-Amara or elsewhere.

*Plague in the Russian Steppes.*

Since my last letter on this subject[1] the following have been the principal outbreaks of plague in the Kirghiz and Kalmuck steppes of Southern Russia. In the autumn of last year plague was present in four places in the Don Territory. At Novopetrovsk 35 cases with 34 deaths occurred between Oct. 7th and 28th; at a farm at Kalatch 5 cases with 4 deaths were seen between Oct. 11th and 28th; at Breslavsk also 5 cases with 4 deaths occurred between Oct. 16th and 29th; and at Gromoslavsk a few cases also occurred about the same time. On the other hand, an official notice of Nov. 9th stated that in all 58 cases of plague, all of the pulmonary variety and all fatal, had been registered in the Don Territory between Oct. 9th and Nov. 4th. Two medical assistants, named Kurilkin and Serpokarylof, died from the disease in this province. A severer outbreak occurred in the Uralsk province in November. Between the 2nd and 30th of that month 319 cases of the disease and 290 deaths were recorded, and at the last-named date 19 were still under treatment. This outbreak occurred mainly at Inder, in the district of Lbishtchensk, but there were also cases at Kalmykof, Kizildjar, and Djaksibaief. There was a revival of the disease at Inder in March of this year, when, between the 15th and 29th of the month, 16 cases of plague, all fatal and mostly of the pulmonary form, were recorded. In the Astrakhan government three cases of plague were seen at Aktubé at the end of December last. In the past summer several other centres became infected. Cases of the disease were seen at Boulanni, Manish-Tchagyl, Bektass-Tchagyl, and Tourgun, in the Kirghiz steppes of this government; at Arkhanskoé-Tebé, Kekshin, and Goubia, in the Kalmuck steppes; and in the village of Tsaref (all in the Astrakhan government). The total number of cases of plague here, between May 25th and July 16th, was 48, and 45 of these were fatal. (All the dates mentioned above are according to the New Style.) Between the last-named date and July 23rd no fresh cases were seen in this government. At Arkhanskoé-Tebé a member of the medical staff, Dr. Yefimof, caught the disease in its pulmonary form from a patient and died from it.

Constantinople, Sept. 19th.

[1] THE LANCET, Nov. 29th, 1913.

A MEETING of the Society for the Study of Inebriety will take place next Tuesday, Oct. 13th, at 4 P.M., when a discussion on Drug Addiction in Relation to Mental Disorder will be opened by Dr. Robert Armstrong-Jones.

UNIVERSITY OF LONDON: UNIVERSITY COLLEGE.—The following Entrance Scholarships and Exhibitions have been awarded in the Faculty of Medical Sciences:—Bucknill Scholarship (135 guineas), B. Rosenstein, of Westminster City School. First Medical Exhibition (55 guineas), H. N. F. Cook, of University College, London. Second Medical Exhibition (55 guineas), A. W. Holgate, of Alleyn's School, Dulwich. Proxime accessit, M. Baranov, of King Edward VII. School, Johannesburg, and University College, London. Epsom Free Medical Scholarship, H. E. Beasley.

DONATIONS AND BEQUESTS.—The late Mr. John Railton, of Alderley Edge, Cheshire, has left £1000 to the Manchester Royal Infirmary, Dispensary, and Asylum; £500 to the Manchester Royal Eye Hospital; and £500 to the St. Mary's Hospitals, Manchester, which include St. Mary's Hospital and the Manchester and Salford Lying-in Hospital, the Manchester Southern Hospital for Women and Children, and the Manchester Maternity Hospital.—The Royal Berkshire Hospital will receive £300 under the will of the late Mrs. Elizabeth S. Neall.—Under the will of the late Dr. Aldis Wright, LL.D., the Beccles Hospital will receive £500. The testator also left £5000 and his books to Trinity College, Cambridge.

# Obituary.

## SIR HENRY DUNCAN LITTLEJOHN, M.D. EDIN., F.R.C.S. EDIN., LL.D. EDIN. (HON. CAUSÂ),

LATE PROFESSOR OF FORENSIC MEDICINE, EDINBURGH UNIVERSITY; EX-PRESIDENT, ROYAL COLLEGE OF SURGEONS, EDINBURGH; AND MEDICAL OFFICER OF HEALTH OF EDINBURGH.

Sir Henry Duncan Littlejohn died at his country residence, Benreoch, Arrochar, N.B., on Sept. 30th, at the age of 86. He had been in poor health for the preceding three years, and this, together with his ripe age, rendered his death, though deeply regretted by many friends, the community at large, and his profession in particular, hardly unexpected.

Henry Duncan Littlejohn, who was the son of Thomas Littlejohn, a well-to-do merchant and burgess of Edinburgh, was born in that city in 1828. He received his general education at Perth Academy, and subsequently at the Edinburgh High School, whence he entered the University of Edinburgh. He graduated there as M.D. in 1847, and in the same year became a Licentiate of the Royal College of Surgeons of Edinburgh at the extra-mural school of which he received part of his medical education. He was admitted to the Fellowship in 1854. He studied for a while at the Sorbonne, in Paris, and also at the Universities of Vienna and Berlin. In 1855 he was appointed lecturer on medical jurisprudence at the Royal College of Surgeons, which post he continued to hold for 42 years, until, in fact, on the death of Sir Douglas Maclagan, he succeeded him in the corresponding professorship at the University of Edinburgh, being then in his sixty-ninth year.

In September, 1862, Sir Henry Littlejohn was appointed medical officer of health of Edinburgh, and it was in this capacity that he first set out on the road to distinction. Edinburgh was about that time a hotbed of epidemic fever, and he prepared a monumental report on the sanitary condition of the city, which dealt in an illuminating manner with the overcrowding, the filthy condition of the closes and houses, especially in the old town, the condition of the byres and bakehouses, the drainage, the water-supply, and so forth. His observations bore fruit (being reinforced in 1866 by another outbreak of cholera) in the passing of the Edinburgh City Improvement Act of 1867. The Improvement Trust, which demolished many of the slum districts and replaced them by new streets at a cost of over half a million sterling, was the outcome of this excellent work. To detail the work of Sir Henry Littlejohn in the field of public health would be to recount the entire sanitary history of Edinburgh for a period of 46 years—viz., until his resignation of the office in 1908. Special mention, however, must be made of four points in connexion with this work. To him is due, first, the origination and completion of the Hospital for the Treatment of Epidemic Diseases; secondly, the development of notification of infectious diseases; thirdly, the establishment of a higher standard of physical comfort among the working classes; and lastly, and in consequence, a progressive fall in the death-rate of the city from an average around 34 per 1000 in the "sixties" to 14·3 per 1000, its present figure in the last annual report. Sir Henry Littlejohn's work in this capacity brought him into intimate relations with the Board of Supervisors, now the Local Government Board for Scotland, by which his

assistance was constantly sought in dealing with outbreaks of infectious disease and for reporting on insanitary conditions throughout the country. These reports were largely published, and constitute a valuable record of the progress of sanitation in Scotland. He was appointed medical officer to the Board in 1873, under the Public Health Act, and when his connexion therewith was severed in 1908 the Board paid a high tribute to his "half a century's strenuous work" in public health.

Another public appointment, the duties of which Sir Henry Littlejohn discharged with his customary acumen and thoroughness, was that of surgeon to the Edinburgh police, which, with his eminence as a teacher of forensic medicine, quite naturally led to his services being frequently utilised as medical adviser to the Crown in criminal cases. He was engaged in all the chief criminal trials of the last 50 years in Scotland, notably those of Pritchard and the Ardlamont case, and in this connexion he got together an important collection of relics of criminal trials which he presented to the University on his appointment as professor of forensic medicine. He was called on to conduct the analysis in all poisoning cases, and in civil cases also he was a highly esteemed expert witness. He was also repeatedly called as an expert in public health questions before committees of the House of Lords and House of Commons.

His extraneous activities were no less vigorous than his professional ones, for he associated himself with a large number of charitable organisations, and especially with most of those in the city of Edinburgh. He was chairman of the Society for the Prevention of Cruelty to Children. He was one of the founders of the Royal Hospital for Sick Children, and remained in close connexion therewith as a director to the end of his life. He also served for nine years on the board of the Royal Infirmary. As a lecturer Sir Henry Littlejohn was at once facile and practical. His lectures were for the most part extempore, and he rarely took anything into the lecture-room except a few jottings or cuttings from a newspaper sufficient to form a text for his discourse. The experience he had gained in his capacity as police surgeon and in the witness box, and his frequent consultation by the Crown in important criminal cases, enabled him to present the usually rather dry subject of forensic medicine in a practical light, while his manner was light and breezy, never tedious.

In 1875 Sir Henry Littlejohn was President of the Royal College of Surgeons of Edinburgh, and from 1883–85 President of the Edinburgh Medico-Chirurgical Society. When the Royal Institute of Public Health held its annual meeting in Edinburgh in 1893 he was chosen president, and his University conferred upon him its honorary degree of LL.D. He was knighted in 1895. In 1907, on the occasion of his retirement from the professorship of forensic medicine at the University, he was publicly presented with his portrait from the brush of Sir George Reid, ex-President of the Royal Scottish Academy.

He married Isabella Jane, daughter of Mr. H. Harvey, of London, by whom he leaves several daughters and one son, Professor Harvey Littlejohn, who succeeded his father in the chair of forensic medicine at Edinburgh University. The body was cremated in Glasgow on Oct. 2nd, the remains being deposited in the Dean Cemetery, Edinburgh, for Sir Henry Littlejohn was a strong supporter of cremation and Vice-President of the Scottish Cremation Society.

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## EDWARD HOOPER MAY, M.D. ST. AND., F.R.C.S. ENG.,

CONSULTING SURGEON, PRINCE OF WALES'S GENERAL HOSPITAL, N.

BY the death of Dr. E. Hooper May on Sept. 23rd the medical profession of the north of London has lost one of its oldest and most prominent members. A man of singularly retiring disposition, he possessed that peculiar charm given by genuine courtesy that characterised what is called the "old school" of medicine. Essentially a surgeon at heart, he yet made an ideal general practitioner, and throughout his long life he was ever foremost in efforts to advance the welfare of his neighbourhood. Perhaps he will be best remembered for his work in connexion with the Prince of Wales's General Hospital, of which he was one of the founders in 1867, and on the surgical staff of which he served until advancing years caused his retirement from the acting staff. Nothing gave him greater gratification than the rapid advance of this hospital, and there is no doubt that it is to his energy and devotion that the present position of the hospital among the London hospitals is due.

Born in 1831 in the house at Tottenham in which he died, he was educated at a private school and at St. Bartholomew's Hospital, where he was dresser to Edward Stanley and clinical clerk to Sir George Burrows. After qualifying in 1854 he went for an extra year's study to Edinburgh to be under Syme. For Syme he had the greatest admiration, and only a few days before his death he told a friend that he still thought Syme was the greatest surgeon of modern times. He also worked with Lister in 1855 at Edinburgh Infirmary. He obtained the F.R.C.S. Eng. by examination in 1856, and settled in practice at Tottenham, where his father, who came of old Quaker stock, had been in practice before him. In 1860 he took the degree of M.D. St. Andrews. In 1864 he assisted in establishing a dispensary, now known as the Tottenham and Edmonton General Dispensary, and in 1867 he was one of the founders of a hospital in connexion with a community of Evangelical Protestant deaconesses. This became the Tottenham Hospital, and eventually the Prince of Wales's General Hospital. Excellently trained for the work, he introduced Listerian principles at Tottenham, and he used to say that the carbolic spray was used earlier at Tottenham than at any other hospital, and given up earlier too. At this time he maintained a close friendship with, among others, Paget and Jonathan Hutchinson, sen., and Hughlings Jackson was one of his most intimate friends. Dr. May did the first nephro-lithotomy in England, though it was not done as a planned operation.

Dr. May did not make many contributions to medical literature. His opinion was widely sought, not only in surgical cases, and he did much consulting work in the north of London. To the end he retained perfectly his eyesight and hearing, and his interest in affairs and his mental activity were unabated. He leaves a widow and family, but none of his sons is in the profession.

## JOHN FLETCHER LITTLE, M.B. CANTAB., M.R.C.P. LOND., J.P.,

LATE PHYSICIAN TO THE LONDON TEMPERANCE HOSPITAL AND MOUNT VERNON HOSPITAL FOR CONSUMPTION, ETC.

Dr. Fletcher Little, who died recently, was born in County Tipperary in 1843. His early education, including the first part of his medical training, was obtained in Dublin. In 1866 he took the qualifications of L.R.C.S., L.R.C.P. Edin. Shortly afterwards he commenced practice at Woolton, near Liverpool, an experience which he frequently afterwards used to quote as having been of much value to him. After some years he established himself at Ben Rhydding. It was at this time that he became interested in physical methods of treatment, especially in massage, and was able to pay a visit to the United States of America to study the ideas which found development later in treatment of the "Weir Mitchell" type. He left Yorkshire in 1879 and began medical study at Cambridge and Charing Cross Hospital, obtaining the degree of M.B. in 1888, and the Membership of the Royal College of Physicians of London in 1889. He had already opened a school for the training of both men and women in massage, one of the earliest institutions for this purpose in London.

Dr. Little acquired a considerable practice, but his wide interests soon induced him to give a large amount of time to public duties. He served for a considerable period on the London County Council and on the Marylebone borough council. In both places he gave evidence of a wide and sympathetic outlook on public affairs, and his advice was of much assistance on many occasions when matters involving the public health and medical interests were concerned. In politics he was an enthusiastic Liberal, and contested Oxford City in the Liberal interest in the year 1895. He held various medical posts of importance in London; for some time his medical work centred in the London Temperance Hospital and at the Mount Vernon Hospital, in both of which institutions he held the appointment of physician. A post to which he gave a large amount of care and attention was the medical officership of health of Harrow. He held this position up to the time of his death, never losing interest in Harrow and its neighbourhood, and had the strength to prepare the annual report of his work to the Harrow council for the year 1913.

To medical men in London Dr. Little was well known on account of his early advocacy and unfailing interest in schemes for post-graduate instruction. He had personally appreciated the value of this in his own career, and felt sure of the desirability of making post-graduate study easily obtainable. He assisted in starting a post-graduate course at Charing Cross Hospital, which was for many years very successful, and was almost the only course of instruction at the time arranged for post-graduates in London. Later, in association with the late Sir Jonathan Hutchinson, he was instrumental in starting the London post-graduate scheme which ultimately developed into the Medical Graduates' College and Polyclinic, an institution which has done so much good work for the medical profession. He was a man gifted with a sanguine temperament, enthusiastic in all that he undertook; difficulties were never too great to be overcome. His cheerfulness never stood him in better stead than during the long and trying illness which preceded his death.

Dr. Little was a member of a family consisting of three sisters and five brothers; two of his brothers, William and Joseph, entered the medical profession and practised in Australia.

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## SIR ALFRED EDWARD THOMSON, M.D. R.U.I.

THE death has occurred of Sir Alfred Thomson, of Cape Town, in a nursing home in Belfast, on Sept. 27th. Some four years ago he was the subject of gastro-enterostomy and, symptoms recurring, a second operation became necessary. This was successfully performed, but the patient's general strength failed and he succumbed in a few days. Sir Alfred Thomson, who was a son of a medical man at Bangor, county Down, studied at Queen's College, Belfast, and in 1886 graduated M.D. of the Royal University of Ireland. In 1891 he became a Member of the Royal College of Surgeons of England. He subsequently went to South Africa and settled down in Cape Town, where he built up an excellent practice and became visiting surgeon to the New Somerset Hospital. He was about 50 years of age at the time of his death and unmarried. Sir Alfred Thomson received his knighthood this year.

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## GEORGE GRESWELL, M.A. OXON. & CAPE OF GOOD HOPE, L.R.C.P. & S. EDIN., L.F.P. & S. GLASG.

WE regret to announce the death of Dr. George Greswell, a well-known practitioner of Louth, which took place at his residence on Sept. 16th following a severe chill.

Dr. Greswell, one of a family of nine brothers and sisters, received his preliminary education at King Edward VI. Grammar School, Louth, and afterwards went to Oxford University, where he had a distinguished career, obtaining an open exhibition at Christ Church, and afterwards graduating B.A. with honours in 1880. His medical studies were pursued at Edinburgh University, at St. Thomas's Hospital, and at Westminster Hospital. At the last institution he won an open scholarship, and having qualified by taking the L.R.C.P. & S. Edin., L.F.P. & S. Glasg., in 1892, he held various appointments in the Medical School, including that of demonstrator of practical histology. Later he was appointed lecturer in physical science under the Government of the Cape of Good Hope, having previously acted for two years as lecturer at the Diocesan College of Rondebosch, near Cape Town. On returning to England he took up medical practice at Grimsby for a time, and for the past 12 years had been in practice at his native town of Louth, in partnership with his brother.

Dr. Greswell was a frequent contributor to medical journals, and wrote several books, among them being "An Examination of the Theory of Evolution" and a "Veterinary Pharmacopœia and Manual of Comparative Therapy." He was also the author of "Health, Morals, and Longevity," and in conjunction with his brother of "The Vital Balance" and the "Wonderland of Evolution." Dr. Greswell will be greatly missed by his many friends and by the inhabitants of Louth, where he was highly esteemed for his learning, skill, and kindly nature.

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EXETER ISOLATION HOSPITAL.—On Sept. 30th the foundation-stone of the new administrative block for the Exeter Isolation Hospital was laid by the mayor in the presence of a large gathering. The estimated cost of the building is £2700.

# Correspondence.

"Audi alteram partem."

## EPIDEMIC DISEASE IN WAR TIME.

*To the Editor of* THE LANCET.

SIR,—Now that not only so many of the larger hospitals in England, but also many private mansions, hotels, &c., are being converted into hospitals for the wounded, it is important that in all abundant means of isolation of patients with epidemic diseases should be provided in connexion before the outbreak of these diseases. The two main diseases to be anticipated are typhoid and epidemic dysentery. Isolated cases of these diseases can be treated in general wards of well-managed hospitals; but when aggregated, and particularly so when the mass of other patients have been exposed to cold, wet, irregular and often insufficient food, and have further had serious injuries, these diseases soon become epidemic.

Early isolation of all cases of these diseases, and also of carriers of these diseases, is the only method that is effective in checking the spread, and if reliance is placed on good nursing, food, and sanitation, without abundant means of isolation, these diseases will spread. I say nothing about cholera, because I understand that of this risk all are aware. It may be introduced, but epidemic dysentery is almost certain.

That the enormous amount of disease usual in war can be prevented is well exemplified in Dr. F. M. Sandwith's lectures on dysentery in THE LANCET of Sept. 5th, 1914, *et seq.* He points out that in the Japanese war against China in 1894 there were 3 deaths from disease to 1 from wounds, but rigid care and attention to sanitation bore their fruit in the Russo-Japanese war of 1904, as the figures were reversed—only 1 died from disease in proportion to 4 who died from wounds.

I am, Sir, yours faithfully,

Harley-street, W., Sept. 30th, 1914. C. W. DANIELS.

## THE USE OF ALCOHOL ON THE BATTLEFIELD.

*To the Editor of* THE LANCET.

SIR,—The great wave of temperance which has swept over civilised peoples in recent years has gained much of its impetus from the efforts of many distinguished members of our own profession. It is therefore with great diffidence that I venture to raise the above question in your columns. Nor do I wish for a moment to advocate any essential modification in the non-alcoholic diet of our army in the field, however anxious I may be to prove my own thesis that the value of alcohol in the present campaign should not be under-estimated.

I will endeavour to put my points as concisely as possible. One of the arguments against the use of alcohol even medicinally, often quoted by scientific temperance lecturers, is the statement that alcohol inhibits phagocytosis, thereby impairing the first line of defence against the infections. I have never discovered the experimental evidence upon which this statement is made, and about five years ago I did some research work on my own account to ascertain its accuracy or otherwise. THE LANCET of Nov. 5th, 1910, published a research which I had made upon the influence of quinine and morphia on phagocytosis, and it was on the same lines that I endeavoured to investigate the influence of alcohol on the same process. My researches, though they entailed much intricate and laborious microscopic work, did not appear to me of sufficient importance to publish until I had confirmed my early conclusions by many repetitions of the experiments, nor was I anxious to enter the lists against the champions of total abstinence until I had made my weapons more effective. The experiments, so far as they went, showed clearly that large doses of alcohol (e.g., the equivalent of 10 oz. for an adult of 10 st.) destroyed the phagocytic action of the blood upon all the common pathogenic bacteria used in my experiments (pneumococci, B. coli, streptococci, and B. influenzæ), but that moderate doses (2 oz.) distinctly increased phagocytic action against these organisms. This confirmed conclusions which I had come to in clinical observations spread over 20 years of active practice, and I have met many able practitioners who have agreed with me on this point.

Last year, at the International Congress of Medicine, a paper was contributed to the section of Bacteriology and Immunity by Professor Besredka, of the Pasteur Institute, on the subject of anaphylaxis.[1] One series of his experiments quoted therein showed how anaphylaxis could be brought about in test animals. They received an injection of some foreign proteid, and on a subsequent date had become so sensitive to this that a second injection produced rapidly fatal results. Another series of experiments was made in which the test animals were divided into two sets; all received the same initial dose of proteid, and all received the same lethal dose on the day of greatest sensitiveness, but one half—the controlled animals—during the interval had been given a certain amount of alcohol. All the teetotal animals died and all the alcoholics survived. It was evident that the alcohol had in some fashion neutralised the poison, stimulated the animal's blood to develop an antitoxin, or narcotised the nervous system so that the higher centres were impervious for a time, and the virulence of the poison abated before the protective effect of the alcohol had passed away.

It is conceivable that, given an injury—say an infected wound—followed by a prolonged exposure to cold and damp, and also in many diseases, conditions are met with closely analogous to this experimental anaphylaxis. Many apparently healthy people are unwitting carriers of pathogenic bacteria, such as various types of influenza bacilli, pneumococci, the large family of streptococci, and the B. coli group. These only need some depressing factor in the shape of danger, hunger, damp, and cold to lose their normal resistance to the germs and fall an easy prey to acute infections which may assume the form of influenzal fever, rheumatism, pneumonia, bronchitis, or septicæmia. When numbers are herded together severe epidemics may easily arise from such a focus, and a virus which has suddenly taken on a greater degree of virulence spreads very rapidly. I have not the slightest doubt that in the first stages of most of this group of cases moderate doses of alcohol are valuable in aiding the natural resistance of blood and tissues. It is too late to be of any service when the patient's tissues are already infiltrated with excess of toxin, and I believe that it is the futile attempts to save dying men by the administration of alcohol which have led so many

[1] A translation of the paper was published in THE LANCET of August 16th, 1913, p. 462

able observers to say that alcohol is useless as a medicine.

I suggest that if there were under the control of company officers a supply of alcohol which could be served out at their discretion, very much in the same way that our naval officers ordered tots of Jamaica rum to the spent sailors in the days of Nelson, there would not be much fear of abuse. It would be distinctly understood that it was an emergency ration, and since the dose need not exceed 1½ oz. of alcohol (good London gin, Scotch whisky, Jamaica rum, or good cognac if available) it would not form a very bulky addition to the ammunition columns. Our heroic troops are not likely to be brutalised by this "prophylactic" use of alcohol, and if it prevented the death of only 1 in every 100 of them it would be well worth the cost and trouble of supply. If I have not misread Mercier's delectable writings upon alcohol and insanity, it is not the use of alcohol which drives men mad, but the insane man who makes insane use of it.

I am, Sir, yours faithfully,

Bentinck-street, W., Oct. 1st, 1914. H. LYON SMITH.

## THE BRITISH PHARMACOPŒIA, 1914.

*To the Editor of* THE LANCET.

SIR,—The new issue of the British Pharmacopœia (1914) will, as has been already announced in your columns, be published on Dec. 31st, 1914. Inquiries have reached me from more than one source with regard to the extent to which the Medical Council will permit the use of the contents of the British Pharmacopœia in medical, pharmaceutical, and kindred works which are about to appear or may hereafter be published. I am accordingly instructed, on behalf of the Council, to say that the Council wholly reserve their copyright in the new work; and that substantial extracts from it must on no account be published without the Council's express sanction. At the same time, no objection will be taken to such reasonable reference to the facts and figures therein set forth as may be properly made for purposes of criticism, review, and summary, or of study and research, but no information of any kind derived from the new issue may be published in book form before Dec. 31st, 1914.

Advance copies[1] of the British Pharmacopœia, 1914, are now accessible at this office, and at 54, George-square, Edinburgh, and 35, Dawson-street, Dublin, for the inspection of the public, from 10 A.M. to 4 P.M. daily (Saturdays 1 P.M.) in order to give to manufacturers, pharmacists, and others interested, an opportunity of ascertaining the changes that are about to be made in official requirements, and of making the necessary arrangements to meet them.

Every person who takes advantage of this opportunity will be expected to observe the conditions above indicated, and will be required to sign an undertaking to that effect.

I shall be obliged if you will insert this letter in your next issue.

I am, Sir, yours faithfully,

A. J. COCKINGTON,
Acting Registrar.

General Council of Medical Education and Registration of the United Kingdom, Oxford-street, London, W., Sept. 30th, 1914.

PS.—The Medical Council Act, 1862, provides that—

"The exclusive right of publishing, printing, and selling the said Pharmacopœia shall vest in the said General Council"

The Copyright Act, 1911, may also be quoted in this connexion:—

"2. (1) Copyright in a work shall be deemed to be infringed by any person who, without the consent of the owner of the copyright, does anything the sole right to do which is by this Act conferred on the owner of the copyright; provided that the following acts shall not constitute an infringement of copyright: (1) Any fair dealing with any work for the purposes of private study, research, criticism, review, or newspaper summary."

[1] A few typographical errors detected in these advance copies will be corrected in the official issue. The editors will be obliged for the intimation of any errata which may have escaped their notice.

## IMPERFECTIONS IN THE CUMBERLAND INFIRMARY.

*To the Editor of* THE LANCET.

SIR,—In the *Hospital* for Sept. 19th may be found a contribution by Sir Henry Burdett, K.C.B., K.C.V.O., on which a few comments are needed. The governors, the committee, and the staff of the Cumberland Infirmary, both honorary and resident, will all feel grateful to the writer of the article for his criticisms and suggestions, even if certain inaccuracies mar his statements.

Sir Henry Burdett contrasts the condition of the infirmary in 1893 with his impressions gathered in June, 1914, and it would seem that so far from improving, the hospital has deteriorated during this period. It is true that he draws attention to certain structural improvements and additions which have cost some £30,000, but he describes a completely equipped ophthalmic department as a "new ophthalmoscope room"! I may mention one of the advances made in the Cumberland Infirmary since 1893 which Sir Henry Burdett has seemingly overlooked. In 1899 a new aseptic operating room, one of the first in the provinces, was completed, but the report credits us with the possession of a new clinical room to each ward which up to the present we have not acquired.

Sir Henry Burdett causes a smile to spread when he writes: "'We gathered the impression that at present there is little or no spirit or life in the place. ..... There was a lack of smart contented briskness in the general atmosphere and work going on in the wards." Well, there is life and spirit enough left to repudiate so hasty a judgment, which to those who have other than a superficial knowledge of the infirmary must seem both featureless and uninformed. Sir Henry Burdett is of opinion that the "Cumberland Infirmary is one of those institutions which require someone in authority with technical knowledge and experience who is constantly devoting attention and time to the supervision and enforcement of smartness throughout the wards and those portions of the establishment which are included in the hospital section." One wonders from what source Sir Henry Burdett gathered that there is a pressing necessity for a sort of supervising inspector who would create the smartness which is lacking in our hospital. All of us have some Utopian plans and ideas, but it is usual to cut the coat according to the cloth in hand, and I question if a superintendent (such as may be found in larger hospitals) would help us very much, even if his services were gratuitous. Sir Henry Burdett thinks otherwise, but in spite of the opinion his wide experiences have helped him to form, I think we know how to adapt our expenditure to our means, rather more certainly than he at his visit appears to have been able to do.

"The administration has been sadly changed for

the worst." I pick out this condemnatory opinion with considerable amazement, to use a mild expression, and assume that the committee, being the body responsible, has to bear the brunt of this unjustifiable attack, and I am more than at a loss to see where Sir Henry Burdett can have gathered materials for so sweeping a dictum.

I quite agree with Sir Henry Burdett "that the real happiness and efficiency of a hospital must depend largely upon the presence or absence of devotion and zeal, coupled with a keen interest in the work among all sections of the staff." Sir Henry Burdett, with marvellous insight during short visit, found the staff of the Cumberland Infirmary lacking in these attributes. Sir Henry Burdett in his mercy refrains from stating the conclusions which his inquiries led him to arrive at, but this restraint is cast off in his summing up of the committee of management, which he thinks has greatly deteriorated. It is well known that the composition of a committee depends on mixed circumstances, and our committee, in accordance with modern requirements, consists of a fair representation of all sections of the community. Sir Henry Burdett would imply that wider representation begets narrower views, for he asks, "Has there been a gradual elimination of the former principles which led some of the most distinguished residents within the county to take an active part in the management?"

Sir Henry Burdett opines that only an investigation, conducted by an expert, could cope with what he considers to be the mismanagement of the infirmary by incapable officials who have, in his opinion, usurped the position of control they are not properly qualified to exert. It seems that this view must be the result of some misapprehension on Sir Henry Burdett's part, for I am almost certain that the committee would repudiate the statement that there has been any interference with their scheme of management. His suggestion of a landscape gardener is quite a good one, but we cannot run the risk of the criticism of our subscribers, and in point of fact there is not a hospital in the country with so fine a site and so splendid a distant view. We cannot afford a gardener of any kind, and there are not many people living in Cumberland who keep a landscape gardener or even consult one; nevertheless, it is a provision to be kept in mind when our affairs are sufficiently prosperous and our supporters are urging us on to take such a step.

With regard to Sir Henry Burdett's suggestion that we should leave the whole of the nursing and domestic affairs directly under the control of a lady superintendent, who should have the assistance of a housekeeper, one wonders what he found so far wrong with the matron Miss Sylvia Parker, who gave him the pleasure of taking him round the hospital. In a larger hospital the sisters, nurses, and probationers can be quite well placed altogether under a superintendent of nurses and a housekeeper employed to look after the commissariat, but in a small provincial hospital like the Cumberland Infirmary care has to be taken not to swallow up the income with a larger staff than is actually needful. Sir Henry Burdett would allow us a resident medical officer (I presume a secretary also), a lady superintendent, and a housekeeper, and these together with our two house surgeons would make a big hole in £1000 a year—a luxury we are quite unable to afford even if it was really essential, which, I think, is very doubtful.

I cannot help thinking that Sir Henry Burdett's conclusions are based either on inaccurate deductions or that he has been supplied with data that are for the most part fancies. Open as we are to suggestions and grateful for any just criticism, I can hardly, in justice to the Cumberland Infirmary, allow some of Sir Henry Burdett's statements to pass without these few comments which I have sent to THE LANCET as well as to the *Hospital*.

I am, Sir, yours faithfully,

Carlisle, Oct. 4th, 1914. H. A. LEDIARD.

## OSTEO-ARTHRITIS.

*To the Editor of* THE LANCET.

SIR,—The correspondence in THE LANCET concerning osteo-arthritis has interested me very much. I have long held that wherever there is neuritis there is always arthritis. The latter may not be severe and may not pass to the erosion stage. I agree with Dr. F. J. Poynton that any known micro-organism may set up any known form of arthritis. Where we have only pulpy swelling the affection may be entirely due to toxins. In osteo-arthritis the actual germs are present in the joint. I am sure we are all very much indebted to Dr. R. L. J. Llewellyn and Dr. A. Bassett Jones for the hints on diagnosis. Their suggestions, however, as to treatment are meagre. Given that osteo-arthritis is due to germs, then surely something that definitely combats germs is useful. I did not notice any mention of changes in the spinal cord in these cases. Orr and Rows have shown how germs may reach the cord along nerve sheaths. P. W. Latham has shown the value of spinal blistering in cases of arthritis, and I am strongly of opinion that it is of great value in early and even late cases of osteo-arthritis in remedying to some extent the changes in the cord and checking the ravages of germs. Local applications of heat may do actual harm in some cases by attracting toxins to damaged areas.

I am, Sir, yours faithfully,

Bournemouth, Oct. 1st, 1914. W. J. MIDELTON.

## THE LONDON PANEL COMMITTEE AND A "THANKOFFERING."

*To the Editor of* THE LANCET.

SIR,—In your report of the proceedings of the London Panel Committee on Sept. 29th it is stated that the proposal to present an ambulance to the Red Cross Society as a thankoffering for the receipt of £90,000 was carried. Though the chairman made a humorous reference to the fact that the Commissioners had at last decided to disburse this money, there was nothing in the resolution to suggest that the gift was to be a thankoffering. As I was sent to the Panel Committee to represent those practitioners of St. Marylebone who are robbed through the ineptitude of trying to run a commercial undertaking on "culture," I could only ironically have voted for the gift as a thankoffering.

I should not have called attention to this matter were it not for the fact that extracts from THE LANCET appear in the lay papers, and from the wording of the report it might be inferred that the members of the Panel Committee were overwhelmed with gratitude at receiving something to which they were not entitled. Though some members may have regarded the proposal "to contribute not more than a guinea" as a sop to conscience on receiving

remuneration really due to their neighbours, this was not expressed in the resolution.

I am, Sir, yours faithfully,

Wells-street, W., Oct. 5th, 1914. J. M. TWENTYMAN.

## THE TREATMENT OF STREPTOCOCCAL INFECTIONS.

*To the Editor of* THE LANCET.

SIR,—In a leading article in THE LANCET of Oct. 3rd, in which some reference under this heading is made to a paper of mine appearing in the same issue, it is suggested that the hæmolysin of the streptococcus is possibly identical with its endotoxin. Although this may be the case, it is to the possible identity of streptococcal hæmolysin with a genuine exotoxin that I wished to draw attention in my paper. As I have perhaps not made this sufficiently clear, and as the existence of a genuine exotoxin in streptococcal cultures has been frequently denied, it may be stated that in Braun's experiments rabbits were killed within 24 hours by the intravenous injection of 5 c.c. of filtrates of the cultures of certain streptococci. In the experiments carried out by Dr. McNee and myself similar results were obtained with larger doses of filtrate. Apart from the usual test of the sterility of the filtrate our results were farther controlled in the following way:—The filtrate from a culture was divided into two portions, and while one of these was injected directly to a rabbit, the other was incubated over night, a proceeding which almost completely destroyed its hæmolytic power, and injected to a second rabbit. Whereas the first rabbit usually showed signs of severe intoxication and often died, the second was never inconvenienced. This result appeared to us to justify the conclusion that certain streptococci produced a genuine although very labile exotoxin, which was closely allied to streptococcal hæmolysin.

I am, Sir, yours faithfully,

JAMES WALTER MCLEOD,
Assistant Lecturer in Pathology, Medical School, Charing Cross Hospital.

Oct. 6th, 1914.

## HELICON.

*To the Editor of* THE LANCET.

SIR,—One is bound to endorse the Government policy "not to close all German concerns when they were carried on for the benefit of British labour." What I suggest—the prescribing of British helicon instead of German aspirin—would not have that tendency.

The same amount would be expended for British labour, but the profits would go into the right pockets, not into those of our enemy.

I am, Sir, yours faithfully,

Hove, Oct. 5th, 1914. EDWARD TREVES.

## TREATMENT OF THE WOUNDED IN THIS COUNTRY.

*To the Editor of* THE LANCET.

SIR,—Even medical men may not have too clear an idea of the scheme upon which the wounded in the war are being dealt with in this country, while it is obvious from communications that have appeared in the daily press that many of the public have no conception of the procedure. The articles on the organisation of medical service in the field will do good, but have you sufficiently shown that in the processes of collecting, sifting, and shifting a large proportion of the most serious cases will be retained abroad? There is little information yet as to the work done by the Royal Army Medical Corps with the Expeditionary Force, but that its resources have been sorely tried is well known and that its personnel has exhibited great courage and devotion can be gleaned. It is right to insist that the character and course of the campaign have made the prompt care of the wounded impossible sometimes.

I am, Sir, yours faithfully,

Oct. 5th, 1914. R. W.

## THE NATIONAL INSURANCE ACT.

### THE WAR AND THE REVISION OF THE MEDICAL BENEFIT REGULATIONS.

IT was generally regarded as likely that considerable revision of the medical benefit regulations and of the terms and conditions of medical service under the Insurance Acts would take place at the end of the current year. The Commissioners have confirmed this in the memorandum to Insurance Committees issued last week, stating that the preparation of revised regulations to come into force on Jan 1st., 1915, had for some time engaged their attention when war intervened, bringing with it the abnormal conditions with which the country is now becoming familiar. In these circumstances the Commissioners, although convinced of the desirability of the changes which they intended to make, have decided that any thorough revision of the existing regulations at the present juncture would involve disadvantages outweighing any benefit which might be expected to accrue therefrom. With this decision the medical profession will heartily agree, and will recognise the spirit of consideration shown for its members in the unprecedented and unforeseen situations in which many of them now find themselves. The Commissioners sum up the position by pointing out that members of Insurance Committees and of the medical and pharmaceutical professions are preoccupied with special problems, local or national, and are voluntarily undertaking exceptional duties in the public interest or in the service of their country which makes it desirable to avoid as far as possible the imposing upon them of the consultations and negotiations involved by substantial revision of the regulations. Further, the Commissioners take into account the number of panel practitioners abroad on active service (with whom they might have included those absent from their practices, although not yet on active service abroad) and express themselves disinclined to introduce changes with regard to which no notice of their intentions could be given "to a section of the medical profession so specially entitled to consideration." As, however, it is possible that the end of war might enable regulations to be considered before the last months of 1915, the Commissioners have decided to make a change as regards the date on which alterations of agreements, both with medical men and druggists, may take place. A draft regulation is accordingly issued by which, as regards the year 1915, the Joint Committee shall have power to alter terms of service upon giving notice to medical practitioners not less than eight weeks before the date of the alteration proposed and not less than six weeks in the case of druggists. The articles in the regulations applying to changes in the terms of agreements are to apply as though the date which may thus be fixed at any time during 1915

were the commencement of a year as contemplated by those articles. Any change of regulations would, however, probably be made at the beginning of a quarter, and is not likely to take place before June 30th, 1915. The only other alteration of existing conditions now in view consists in the proposed substitution of a uniform scheme of certification, to be imposed by the Commissioners, for the existing system of certification in accordance with the rules of a particular society or committee. This would carry into effect, the Commissioners believe, the wishes of the medical profession upon a point as to which it has been widely consulted.

### PREGNANCY AND SICKNESS OR DISABLEMENT BENEFIT.

The Insurance Commissioners having recently informed Approved Societies that no distinction should be drawn between incapacity due to pregnancy and that arising from other causes, so far as the payment of benefits is concerned, have issued a memorandum to the same effect to medical practitioners. It states that if a practitioner on the panel is satisfied as to the incapacity for work of his patient a certificate should not be withheld on the ground that the incapacity is due to, or accompanied by, pregnancy. As, however, a special grant has been provided for the cases referred to, incapacity directly or indirectly due to pregnancy should be clearly indicated on the certificate. Practitioners are also warned that the provision of benefit for the pregnant does not affect the criterion of incapacity; that is to say, certificates must not merely be given on account of pregnancy, but only where the medical man is satisfied that the insured person is rendered incapable of work. The action of the Commissioners in this matter may be regarded as part of a Government policy of organised attention to the care of infant life—a subject with which we dealt recently in a leading article on the Government grants for maternity and child welfare.[1]

### INSURANCE AND WAR SERVICE.

The Commissioners call attention to the benefits provided for seamen, marines, and soldiers under the Insurance Acts. The authorities will pay 3*d.* weekly for such, deducting 1½*d.* from their pay; but men of the Naval Reserves, Territorial Force, and New Army not insured before mobilisation or enlistment may choose whether contributions shall be paid in respect of them, or whether they will forfeit the benefits to which they would become entitled by insurance. Civilian contributions and arrears do not have to be paid during service, and maternity benefit is the only benefit which survives while service continues. The Commissioners in a circular (Leaflet 29) describe the steps which a wife must take to secure maternity benefit while her husband is serving. Particulars are also given of the benefits to be secured on discharge by insurance during service, through Approved Societies and out of the Navy and Army Insurance Fund.

### SANATORIUMS UNDER THE ACT.

The list of sanatoriums approved by the Local Government Board under the National Insurance Act, 1911, for England and Wales has now been revised up to Oct. 1st, 1914, and a copy of the revised list of the approved sanatoriums for the treatment of persons suffering from tuberculosis and resident in England (excluding Monmouthshire) may be obtained, either directly or through any bookseller, from Messrs. Wyman and Sons, Limited, 29, Breams-buildings, Fetter-lane, E.C. Sanatoriums for the treatment of insured persons suffering from tuberculosis and resident in Wales (including Monmouthshire) are now subject to the approval of the Welsh Insurance Commissioners.

[1] THE LANCET, Sept. 26th, 1914, p. 805.

## THE WAR.

### SIR ALFRED KEOGH.

Sir Alfred Keogh, who has been acting as Chief Commissioner with the British Red Cross Society in Paris, has returned to England and taken up a medical appointment at the War Office.

### THE WOUNDS OF THE PRESENT CAMPAIGN.

We publish elsewhere some notes upon the wounds of the present campaign by Mr. G. H. Makins, C.B., Consulting Surgeon to the Forces.

### GERMANY IN WAR TIME.

An English medical correspondent in Switzerland, with free and early access to medical and other periodicals from Germany, sends us the following notes which we think will prove of interest to medical readers in this country. It will be seen that the notes range over a large number of subjects only connected by the common bonds of war conditions.

*Food-supply of the civil population.*—A memorandum, drawn up by well-known medical men, recommends the careful saving of wheat flour, since only two-thirds of this is home grown, and the addition of rye flour which normally is exported from Germany. The bran, amounting to 20–30 per cent. of wheat flour, should not be used as fodder but mixed with the flour; and small loaves can be made of bran and rye alone. The use of meat must be restricted, remembering that Germany, next to England, has the largest consumption per head (107 lb. per year). One portion of meat a day is enough, and this economy is especially the duty of the rich for the sake of example. Veal must be given up and some reduction made in the total number of oxen and bullocks, thereby liberating some grazing ground for growing corn. Cheese should become an essential article of diet, making with bran bread, milk, and potatoes an excellent and complete food. Vegetables are to be grown everywhere—in the cornfields between the crops and on dug-up lawns in towns. Maize, chestnuts, peas, lentils, beans, and rice are to take their share in saving corn. The production of beer must be restricted, and people should learn to quench their thirst with water, a sacrifice small in comparison with that of the soldiers in the field. The barley meal so saved can be added in the proportion of 10 per cent. to rye bread, with a little bean meal to avoid dryness. Potatoes should be used neither for feeding cattle nor for making schnaps, and potato meal is also useful for bread making. In this way 20 per cent. of the available rye could be saved in view of a possible bad harvest in 1915. The memorandum, while advising these precautions, disclaims any occasion for anxiety of famine.

*Diseases in the fields of war.*—Improved hygiene makes itself felt in the more recent wars. In the Crimea for each soldier killed on the field 1·7 died later from wounds, and 6·4 from disease. On the German side in 1870 1·6 died from wounds and only 0·9 from disease. Up to Sept. 10th the health of the German army was reported good, but there was stated to be pulmonary plague in Poland, small-pox in Russia, Belgium, and France, and cholera in Podolia and Warsaw. The German Kaiserin has issued a circular expressing the urgent wish that tuberculosis effort should not be suspended on account of the war. Up to August 17th 2000 Germans had availed themselves of the special qualifying medical examination.

*Personalia.*—The eldest son of the Bavarian Crown Prince has died within 36 hours of acute poliomyelitis, a disease

specially endemic in Upper Bavaria, 44 cases being notified from Munich within less than a year. Some little rivalry has occurred amongst German scientists in getting rid of medals presented to them by English learned societies. Röntgen, of X ray fame, and the physicist Lanard, have given the gold value of their Royal Society medals to help the relatives of fallen soldiers; and Schmid, the pharmacologist of Marburg, followed suit with the Hanbury medal. The wave of patriotic feeling in Germany extends also to medical circles. There is a widespread movement to rid the language of all foreign medical words, and still longer and more unwieldy compounds are to be expected. The following instance of carrying this spirit somewhat further than in corresponding English circles may be of interest. An English medical man asked the publishers of one of the principal German medical papers for the translation rights into English of a vade-mecum for surgeons at the front. The publisher telegraphed in reply: "English edition unnecessary, since the cut-up (*verhauen*) English soldiers are at present in German hospitals and are being treated there according to the German edition"; and the jest was considered sufficiently good to reproduce in all the principal German dailies.

### THE TERRITORIALS AND CLEANLINESS.

Although everyone can appreciate that all connected with the War Office have their hands full at the present moment, we still think it unfortunate that more attention has not been given to the very urgent problem of the cleansing of the undergarments of the Territorials and other newly raised troops which are at present in training in this country. This is not a matter which can be left to the individual initiative of men who are camped out in strange localities. A proper organisation should be instituted, and we suggest that in every camp a depôt tent should be established where the men could hand in their soiled underwear. Thence it could be sent in bulk to a laundry in the neighbourhood, where it could be cleansed and returned in bulk to the camp to be distributed to the owners. We understand that the Federation of Laundry Associations are perfectly willing to make the necessary arrangements with laundries favourably situated for doing the work, which would be undertaken at as near cost price as possible; the only thing necessary is proper organisation to be established by the officers in charge of the camps. We are informed that up to the present no detailed arrangements with regard to laundries have been made, and if this be so we think that the matter deserves immediate attention. The managers of laundries where odd parcels have been received from the recruits have already discovered vermin in the garments, and unless proper precautions are taken there is no doubt that a very annoying disease will spread rapidly. It is obvious that with men drawn from all ranks of life closely packed together in tents this difficulty is bound to arise unless suitable measures are found to deal with it. On campaigns, as every old soldier knows, the trouble is almost sure to occur, but it should not present itself in troops which have not yet gone to the front.

### THE CARE OF THE WOUNDED IN PARIS.

A valued correspondent resident in Paris, who unwillingly left the city when a siege looked imminent, and when the authorities were pressing on all who would be unable to take a personal part in the defences the necessity for taking *les bouches inutiles* elsewhere, was able to return in a few days, and has sent us the following letter:—

Coming back to Paris after a short absence I was struck by the contrast between the stagnation in all the usual occupations of daily life and the immense activity among the many organisations for dealing with the sick and wounded. Every organisation created for this purpose is under the final authority of the French Military Service de Santé. Up to the time of writing it has controlled the collection of the wounded on the battlefields and their distribution to the different hospitals. The advantages of a central authority were, however, diminished by the increasing difficulty of rapidly transporting large numbers of wounded, and, perhaps not readily enough, it was decided to utilise the voluntary assistance so freely offered. It has until recently been very difficult to obtain permission for motors to enter the fighting zone, owing to the occasional misuse of such permits, but it is now recognised that delay in transport must be avoided at all costs, and the Red Cross societies are permitted to send their own motors to collect the wounded on the battlefields.

The distribution of the wounded among the hospitals has been entirely in the hands of the military authorities. They believed that in first filling the provincial hospitals they would avoid the danger of a possible epidemic in Paris, increase the chances of the patients' speedy recovery in country air, and have more empty beds to be used in case the enemy succeeded in fighting up to the gates of Paris. The theory was excellent, but a good deal of dissatisfaction has been caused by the trying and sometimes fatal delays due to the difficulties of train service, monopolised as this was largely forced to be by the transport of troops and supplies. The wounded have sometimes spent three or four days in the train without the attentions of trained nurses at a time when Paris was literally filled with empty hospitals. The Government has now issued an official note from Bordeaux, stating that the unfortunate necessity for hurriedly transporting wounded stretched on straw in wagons previously used for transporting horses was due to the German habit of disregarding the Geneva Convention and bombarding the hospitals and ambulances. The note points out that if these hurried evacuations have had serious results in some cases they have undoubtedly saved the lives of the majority.

Orders have now been issued permitting Red Cross nurses to be in attendance on the trains, and the ambulance motor service which will be run by each hospital will relieve the congestion in the railway transport, always a difficult problem where the movement and victualling of troops and the transport of ammunition must take precedence over the evacuation of the wounded.

While the French are still reserving the Paris hospitals for a possible emergency, the greatest activity is seen among those under English direction. Five hospitals have been organised by the Paris section of the British Red Cross Society and are in full working order, though the section has scarcely been in existence a month. The work begun in the home of the general secretary, Mr. C. Stanhope, has grown so rapidly that the president, Dr. Leonard Robinson, Mr. Bernard Harrison, and the entire staff have moved their headquarters to the Hôtel d'Iéna, which has been lent by the proprietress. A good service of ambulance motor-cars has been arranged for the transport of the wounded from the base of operations to the hospitals organised by this Paris branch. One of them is at the British Hertford Hospital at Levallois-Perret, another in the Hôtel Astoria is directed by the Baronne Le Lasseur, a third in the nursing home of Dr. Suzor, a fourth in the home of Vicomtesse Antoine de Contades and her brother, and a fifth in the Château de Laversine, offered by Baron Robert de Rothschild, is already filled under the direction of Dr. Kaye. The Rev. H. Briggs and a staff of ten chaplains are working hard among all the different institutions where the English wounded are found. Of course, the English soldiers are generally drafted to the English hospitals, but no special attempt seems to have been made to separate the different nationalities. 330 wounded Germans were being cared for at the Val-de-Grâce Military Hospital last week, and there were 50 English wounded in the auxiliary military hospitals in the Lycée Buffon, Boulevard Pasteur. The sympathy of the French for the English is remarkable. 500 people attended the funeral of an English private two days ago and there were many flowers brought for the coffin of the unknown ally. Another English hospital under the direction of the Union des Femmes de France was organised by Dr. Louisa Garrett Anderson and a complete staff of women surgeons, doctors, and nurses. The help of this unit was gratefully accepted by the French Government. The hospital is installed in the building

lately completed for the Hotel Claridge in the Champs Elysées. In an incredibly short space of time the shavings and rubbish left by the builders were cleared away and all the paraphernalia of the spacious wards installed. There were from 60 to 70 cases there last week, and an average of 12 have been received every day, but here as elsewhere it is impossible to quote numbers which change constantly. Many very serious cases have been taken here, some of the men being brought in moribund. Most of the wounds are in the legs and arms, and nearly all are from shrapnel. One man had the heavy round iron cap of a shell in the abdominal cavity for seven days. The lighter cases are being sent out to the hospital organised in the Trianon Palace Hotel at Versailles. No cases of tetanus have been received here as yet, but several cases have been brought in to other hospitals. One of the largest and most complete of the new voluntary hospitals in Paris is the American ambulance at Neuilly. The huge new building of the Lycée Pasteur in the Boulevard d'Inkermann has been fitted up with every appliance that money can buy, and the patients are cared for by a staff of American doctors and nurses.

Twenty motor-cars go out daily to pick up the wounded, and their return in the late afternoon is eagerly waited for by a large crowd of people.

Since the authorities do not wish to have any more hospitals in Paris, the £25,000 offered to France by the Canadian Government to establish a Canadian ambulance will be used to organise a hospital outside Paris.

At a meeting in Paris between Sir Alfred Keogh and the other Red Cross Commissioners, Dr. Robinson, the chairman of the Paris branch of the British Red Cross Society, the members of the committee, Lord Robert Cecil and Mr. Stanley, it was decided that as the great need of the moment was ambulances, all those at present at Boulogne and Amiens should be at once brought to Paris. Mr. Stanley undertook to send out ambulances as quickly as they could be shipped across, and for that purpose it was decided to charter a special vessel.

### THE BRITISH RED CROSS SOCIETY.

The following is a summary for the week ending Oct. 7th of the work done by the Society:—

*Paris.*—The various hospitals in Paris are now doing excellent work, and these have been augmented by an additional personnel during the past week, and also by the Scottish unit which is now with the Red Cross Hospital at the Hotel Astoria. The equipment of the 50-bed hospital of the Scottish unit for Paris was despatched on Oct. 1st and reached Rouen on Monday, Oct. 5th, for Paris. The personnel reached Paris on Oct. 3rd, and is located in the upper floor of the Red Cross Hospital at the Hotel Astoria. Active steps are being taken for the despatch of a Scottish unit of 10 motor ambulances, three closed cars, and three lorries covered, to work with the unit, and suitable personnel has been engaged. These motor ambulances have all new chassis, and will probably have a body approved by the British Red Cross Society. It is hoped that some of these will be despatched by Tuesday by steamer from Glasgow to Rouen. The motor ambulances are proving of great and invaluable service to the hospitals. The depôt of stores established by the Scottish branch at Rouen has been replenished from time to time with all the articles needed, as suggested by the society or by the advice of the Scottish Deputy Commissioner on the spot.

*Personnel of the hospitals.*—During the past week the society has despatched two units to Paris. The first consisted of 10 surgeons, 10 dressers, 44 orderlies, and 33 nurses, and the second of 15 surgeons and 50 nurses. Five surgeons and 4 orderlies have also been sent to Amiens. On Oct. 3rd 3 nurses went to Dieppe and 1 nurse (with the surgeon and X ray plant) to Paris. On the 6th, 50 nurses left for Paris and 3 nurses for Aix-les-Baines, and on the 7th 6 nurses left for Dieppe.

*Stores and transport department.*—During the week ending Oct. 7th 28 hospitals in Great Britain have been provided with medical stores and comforts. The shipments to France have been very extensive. At Rouen the yacht *Sunbeam* delivered 458 cases of stores, and in addition large consignments have been forwarded to St. Nazaire, St. Malo, Paris, and Dinard. The steamship *Annis* has been chartered and will sail from London direct to Paris. She will carry about 500 tons of cargo and has been chartered at the rate of 400 francs per day, plus coal, pilotage, harbour dues, and stevedore's pay. The total should not exceed £1000 per month, which is reckoned by the Peninsular and Oriental Company to be a very moderate price. She will ply between London, Rouen, and Paris, taking stores. She can also be sent as far as Bordeaux round the continent if necessary. The stores and transport department is shipping to Paris 1000 cases of medical stores, clothing, and comforts, and further over 2000 blankets, also 80 beds with bedding complete. This represents approximately hospital kit, medical stores, and bedding for about 2000 men. Messengers will leave London for the Chief Commissioner on Tuesdays and Saturdays, returning Thursdays and Fridays unless the Chief Commissioner otherwise determines. The names of those willing to serve as messengers are as follows:—Lord Annaly, F. Hodgson, Esq., Hon. L. Holland, H. Hudson, Esq., Colonel Johnston, D.S.O., I. Malcolm, Esq., M.P., D. O. Malcolm, Esq., C. M. Marling, Esq., C.B., C.M.G., Hon. Sir S. McDonnell, G.C.V.O., Sir W. Miller, Bart., Lord Onslow, D. Pender, Esq., Conway Seymour, Esq., C. Westmacott, Esq., and H. Samuelson, Esq.

### THE THREAT OF CHOLERA IN EUROPE.

A communication which we publish this week from Dr. F. G. Clemow, C.M.G., the British delegate on the International Board of Health at Constantinople, deals with the danger from cholera and plague, which existing endemically in their eastern bounds, may become prevalent in the West through military operations. The Board of Trade has received through the Foreign Office official notice that Catania and Piræus are infected with plague. But, as Dr. Clemow says, plague is a disease that offers far less menace to fighting forces than does cholera, and it is with his summary of recent cholera prevalence in the Near East that readers will mostly be concerned. It would seem that Russia by the beginning of September was fairly free from cholera, and that the rumours of its presence in Black Sea ports were not true. But there appears to be no doubt that cholera made its appearance among the wounded in Hungary at least a month ago, so that there must have been some cases in Galicia when war broke out. The Austrian Public Health Department has made a statement that the affected cases which appeared in Moravia and Silesia were all among soldiers sent back from the seat of war. Of the existence of the disease among these there is no doubt, but of its degree of prevalence no one can speak certainly, the presence of dysentery complicating the diagnosis. Dysentery has probably got out of hand, as there is a serious shortage of medical attention with the Austrian troops, although the German troops are accompanied by a large personnel of medical officers and their attendant men. Any absence of medical supervision is disastrous where dysentery is concerned, as early diagnosis and the free use of means of isolation are required to prevent the spread of a disease which is disastrous to armies in time of war.

### FIRE PRECAUTIONS IN EMERGENCY HOSPITALS.

The British Fire Prevention Committee desire it to be known to the management of the hospitals and convalescent homes, permanent and temporary, doing emergency work in connexion with war cases that arrangements have been made by the committee to undertake the following in the matter of fire precautions for the impending winter:—

1. The committee will provide a suitable printed "warning" for posting in wards and rooms, copies of which will be supplied gratuitously on written application.

2. They will arrange for experienced professional men to act as honorary fire surveyors with a view to inspecting hospital buildings and homes, and advising such simple precautions as can be taken without expenditure having to be incurred.

3. They are prepared to provide experienced retired firemen from their Special Fire Service Force to act as watchmen or as fire patrols.

All inquiries should be made to the Registrar, British Fire Prevention Committee, 8, Waterloo-place, London, S.W. The committee have submitted to us a specimen of the "warning," which summarises excellently the precautions to be taken against fire in emergency institutions, as well as the steps to be taken on the occurrence of an outbreak.

### MEDICAL CASUALTIES AT THE FRONT.

The following additional casualties to officers of the Royal Army Medical Corps in the Expeditionary Force have been reported:—*Killed:* Lieutenant William Ormsby Wyndham Ball and Lieutenant John Crocket.

SECOND EASTERN GENERAL HOSPITAL, BRIGHTON.—Official notification has been received that no further batches of wounded will be sent from the front to the Second Eastern General Hospital at Brighton, the War Office having decided that the finely-equipped building, which was erected, and used for a few terms only, as a grammar school, shall be devoted in future to the needs of the new army—the men forming the great encampments at Shoreham and Seaford on the Sussex coast, and Crowborough, in north Sussex. The hospital now comprises 520 beds, and this number has to be increased immediately to 800. The building was taken over by the military authorities on August 7th, but it was not until Sept. 1st that the first batch of wounded arrived direct from the battle of Mons. Another batch arrived three weeks later, 580 cases in all being treated. The second and last batch of wounded included many very serious cases, but thanks to the skill of the medical staff, coupled with the work of the fully trained Territorial nurses, only two deaths in all have occurred. The operating theatre has been constantly in use.

THE SECOND WESTERN GENERAL HOSPITAL, MANCHESTER.—The fourth train of wounded soldiers, 122 in all, has reached Manchester. There are now 460 wounded in the Military Hospital in Whitworth-street. There are 34 German prisoner patients. Some of the recovering patients who arrived some 10 or 12 days ago have been removed to the Princess-street Hospital in order to make room for new cases which require immediate surgical treatment.

MANCHESTER DENTAL HOSPITAL AND THE TEETH OF RECRUITS.—The staff of this institution has since the beginning of recruiting rendered most efficient aid to those recruits who were able to satisfy the medical inspectors in every respect but one—viz., as to teeth, which were often insufficient in number or unsatisfactory in condition. The amount of gratuitous work done by the staff is enormous. The attendance of would-be recruits for enlistment numbers over 1000. In 297 cases teeth have been supplied. The average attendance is about 40 per day. The committee of the hospital has been obliged to issue an appeal to the public for money to meet the heavy cost of this work.

THE Council of the National Institute for the Blind have undertaken to help, as far as practicable, all men who lose their sight while serving their country in the present war. Names and addresses of those who desire to avail themselves of this offer should be forwarded to the Secretary-General of the Institute, Great Portland-street, London, W.

THE "WAR BABIES" BRANCH OF THE SOLDIERS' AND SAILORS' FAMILIES ASSOCIATION.—Her Majesty the Queen has intimated her great interest in and approval of the Belfast "War Babies" Branch of the Soldiers' and Sailors' Families Association, which was among the first organisations to be started in the United Kingdom. At the Babies' Club, Divis-street, Belfast, during the past four weeks a large number of the wives resident in Belfast of the soldiers fighting for their country have brought their children—from the age of infancy to 2 years—for advice and direction as to their management. Every case is most carefully investigated, so that no unfair advantage will be taken of the aid given, and the numbers are each week increasing.

THE Royal Sanitary Institute is preparing a list of its members on active service, and the secretary would be glad to be informed of the names of those members and associates who hold commissions or who are serving in the Regular or Territorial Forces, and the name of the corps to which they are attached.

AMERICA AND WAR RELIEF.—130 wounded soldiers were admitted into the American Women's War Relief Fund Hospital, Paignton (Devon), last week. The War Office has appointed Lieutenant-Colonel Robert Cardwell Gunning, R.A.M.C. (retired), to be commandant of the institution.—The American Red Cross ship, with medical men and nurses for the belligerent countries, reached Falmouth last week, and separate units have since proceeded to various parts of the theatre of war.

TO THE RELATIVES OF THE WOUNDED.—Relatives of officers and men are informed by the War Office that arrangements have been made for progress reports as to all sick and wounded who are not progressing favourably to be forwarded regularly from the base to the War Office. These reports will be communicated to the next of kin as soon as possible after receipt. All applications as to the condition of the sick and wounded should be made in the case of officers to the War Office, and in the case of men to the Military Record Offices, and private telegrams should on no account be sent to the headquarters of the army in the field or to military offices or hospitals.

THE CHOLERA CORPS.—We understand from Mr. A. White Robertson that, after correspondence with the War Office and the British Red Cross Society, it has been decided that there is no immediate call for the services of this corps. Medical men and nurses who have applied for special training will therefore be free to accept other appointments.

THE PRISONERS OF WAR BUREAU.—The Press Bureau announces that the Prisoners of War Information Bureau has been instituted, with offices at 49, Wellington-street, Strand, W.C. The primary purpose of the bureau is to keep records of information as regards prisoners of war interned in this country in exchange for information about British prisoners of war interned abroad. The bureau has no information as to British prisoners of war in Germany. Inquiries on this point should be made of the War Office.

THE Belgian newspaper *La Patrie*, published at Bruges on Oct. 3rd, contains an account of the manifestation of sympathy by the Belgian soldiers at the English convent for Mr. Samuel Osborn and the English ambulance party. Mr. Osborn was received with cheers, and Mittrailleur Janssens, who speaks English very well, testified to the devotion of the English people for the Belgians and to the "paternal" care of Mr. Osborn in particular. Mr. Osborn, replying, said: "We English thought it our duty to assist you on the field of battle and to succour the wounded as far as possible. You have kindly spoken of me as your father, and if I regard myself as such I must say that I could not have had better or more patient sons to care for."

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GUY'S HOSPITAL MEDICAL AND DENTAL SCHOOLS.—The following scholarships have been awarded:—Senior science scholarships for university students: £75, John Maurice Hardman Campbell, New College, Oxford; £35, Frederick Alfred Unwin, King's College, London. Junior science scholarships: £120, Albert Ernest Sawday, Guy's Hospital Preliminary Science Class; £50, Sydney Anselm Sharpe, Guy's Hospital Preliminary Science Class. Entrance scholarships in arts: £50, Edward Emile Delisle Gray, St. Paul's School; £50, Myles Wheeler O'Bryen, Oratory School, Edgbaston. Open scholarship in dental mechanics: £20, Alfred Herbert Bowes. Scholarship in dental mechanics for pupils of Guy's Hospital: £20, Wyndham Brookes Farrington.

# Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—The diploma of L.R.C.P. and M.R.C.S. was conferred upon the following candidates at a special examination held on account of the war on Sept. 24th:—

Hallowes Lloyd Addison, King's College Hospital; Charles Layton Balkwill, Birmingham University; Lancelot White Barlow, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Stanley Batchelor, London Hospital; Tremlett Brewer Batchelor, M.A. Oxon., Oxford University and London Hospital; John Dorrington Batt, Oxford University and St. Bartholomew's Hospital; Lindsay Willett Batten, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Kenneth Benson Bellwood, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; George Albert Berkeley-Cole, Durham and Leeds Universities; Kenneth Biggs, London Hospital; William McHutchison Binning, University College Hospital; Zaki Mikhail Bishara, Cairo and London Hospital; William Herbert Blakemore, Manchester University; Majorie Ada Blandy, Royal Free Hospital; William Houston Boyd, Queen's University, Belfast; James Jackson Brown, London Hospital; Owen Deane Brownfield, St. Thomas's Hospital; Frank Bocquet Bull, L.D.S. Eng., Guy's Hospital; Bruce Burnside, B.A. Cantab., Cambridge University and Guy's Hospital; Lyle John Cameron, M.D. Manitoba, Manitoba University and London Hospital; George D'Rastricke Carr, B.A. Cantab., Cambridge University and London Hospital; Eric Catford, St. Bartholomew's Hospital; Paulin Roger Cuevreau, Guy's Hospital; George Frederick Clifton, B.A. Cantab., Cambridge University and University College Hospital; John Stanley Cocks, L.D.S. Eng., Guy's Hospital; William Tregonwell Collier, B.A. Oxon., Oxford University and University College Hospital; William John Cook, M.D., C.M. McGill, McGill University and London Hospital; Lionel Pailliser Costobadie, Cambridge University and London Hospital; Richard Irving Dacre, Bristol University; John Horace Dancy, St. George's Hospital; Thomas William David, Cardiff and St. Bartholomew's Hospital; Percy Vernon Davies Charing Cross Hospital; Marcelline de Costa, Ceylon Medical College and Guy's Hospital; Edmund Rupert Dermer, Middlesex Hospital; Mostafa Dia, Cairo and St. Mary's Hospital; Stephen Ormond Dolan, Leeds University; Alexander John D'Souza, L.M.S. Madras, Madras and Middlesex Hospital; Harold Dunkerley, Cambridge University and London Hospital; James Angel Durante, London Hospital; Mohamed Kamil El Kholy, Cairo and University College Hospital; Richard Feltrim Fagan, University College Hospital; Frederick Ernest Felden, Middlesex Hospital; Hassell Dyer Field, St. Thomas's Hospital; Robert Ovens Fisher, M.B. Toronto, Toronto University and Middlesex Hospital; John Edward Foley, Birmingham University; Edward Dance Fountain, St. Mary's Hospital; Hugo Rudolph Friedlander, St. Thomas's Hospital; Cassidy de Wet Gibb, Guy's Hospital; Gerald Francis Fetvin Gibbon, St. Bartholomew's Hospital; Edward Harold Hertslet Granger, B.A. Cantab., Cambridge University and University College Hospital; George Leonard Grant, B.A. Cantab., Cambridge University and London Hospital; Alan Renata Green, M.B., Ch.B. New Zealand, Otago University and London Hospital; Samuel Lionel Green, St. Bartholomew's Hospital; Ernest Richard Gordon Greville, St. Thomas's Hospital; Ernest Frederick Guy, University College Hospital; Norah Hamill, Royal Free Hospital; Ernest Eugene Herga, London Hospital; Arthur Edward Huxtable, Charing Cross Hospital; Laurence Mansfield Ingle, B.A. Cantab., Cambridge University and London Hospital; Rupert William Percival Jackson, B.A. Cantab., Cambridge University and Guy's Hospital; Charles Evans Jenkins, Cardiff and London Hospital; Rosalie Jobson, Royal Free Hospital; Samuel Walter Maslen Jones, Middlesex Hospital; Sydney Hudson Keys, Middlesex Hospital; Gerald Patrick Kidd, St. Thomas's Hospital; Noel Sigismund Koch, St. Bartholomew's Hospital; Gajanan Chintaman Kusumbeker, L.M.S. Bombay, Bombay University and London Hospital; Francis Claud Lapage, Cambridge University and Middlesex Hospital; Robert Ancel Leembruggen, Ceylon Medical College and St. Bartholomew's Hospital; Arthur Baker Le Mesurier, M.B. Toronto, Toronto University; Kingsley Wassell Lewis, University College Hospital; James Arthur Liley, London Hospital; Andrew Hunter Little, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Iorwerth Rubert Lloyd-Williams, Middlesex Hospital; Edward Richardson Lovell, Middlesex Hospital; Henry Dundas McCall, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Francis Oreti MacGibbon, New Zealand and London Hospital; Roderic MacGill, Manchester University; Helen Marion Macpherson Mackay, Royal Free Hospital; Alan Samuel Lack Malcolm, B.A. Cantab., Cambridge University and University College Hospital; Edith Marjorie Maitland, Royal Free Hospital; Claude Jocelyn Delabere May, Bristol University; Henry Leslie Messenger, L.D.S. Eng., Guy's Hospital; Vaman Raghunath Mirajkar, L.M.S. Bombay, Bombay University and St. Bartholomew's Hospital; Leonard William Mortimer, London Hospital; Arthur Rennie Muir, Cardiff and University College Hospital; Wilfrid Davison Newcomb, B.A. Cantab., Cambridge University and London Hospital; George Marshall Oakden, L.D.S. Eng., Sheffield University and Middlesex Hospital; Guy William Parry, St. Bartholomew's Hospital; Henry Ray Parslow, London Hospital; Margaret Russell Paterson, Royal Free Hospital; John Ernest Pearce, St. Bartholomew's Hospital; Charles Harry Grenville Penny, L.D.S. Eng., Guy's Hospital; Michael Gladstone Pettigrew, Sheffield University and University College Hospital; Leonard Robert Pickett, L.D.S. Eng., Guy's Hospital; Emma Christine Pillman, Royal Free Hospital; John Pinder, Leeds University; John Alexander Pridham, St. Bartholomew's Hospital; Grantly Dick Read, B.A. Cantab., Cambridge University and London Hospital; Frederick Tavinor Rees, Cardiff and St. Bartholomew's Hospital; Henry Charles Cadell Rennie, M.B., B.S. Adelaide, Adelaide University and London Hospital; Adrian St. Johnston, Cambridge University and St. Thomas's Hospital; Eric Arthur Langford Sansom, University College Hospital; William Goodman Shakespeare, Westminster Hospital; John Patrick Shaw, Middlesex Hospital; Reginald Hugh Simpson, St. Bartholomew's Hospital; Bawa Harkishan Singh, Lahore and Middlesex Hospital; Herbert Smith, Birmingham University; Cecil Spurling Staddon, St. Thomas's Hospital; Edwin Cyril Widmerpoole Starling, B.A. Cantab., Cambridge University and Guy's Hospital; Frank Sykes, Leeds University; Leonard Hankinson Terry, St. Bartholomew's Hospital; George Robert Seager Thomas, B.A. Cantab., Cambridge University and Westminster Hospital; Penaam Thornton, Birmingham University; Naomi Tribe, Royal Free Hospital; Geoffrey Say Trower, Cambridge University and St. Bartholomew's Hospital; Bryan Montague Tuke, Middlesex Hospital; Jocelyn Langton Waller, St. Mary's Hospital; Eric Watson-Williams, B.A. Cantab., Cambridge University and King's College Hospital; Gervas Charles Wells-Cole, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Leslie Herbert Worthy Williams, Cardiff and University College Hospital; and Maurice Ulick Wilson, King's College and Westminster Hospital.

At the Second Professional Examination in Anatomy and Physiology held on Sept. 24th, 25th, 27th, and 28th, for which 62 candidates presented themselves, of whom 43 were approved and 19 were rejected, the following were approved:—

Kenneth Norman Grierson Bailey and Thomas Burton Bailey, St. Bartholomew's Hospital; Herbert Frederic Gustave Berncastle, Guy's Hospital; Kalyanpur Harikar Bhat, Madras University and Charing Cross Hospital; Butros Bishara, Cairo and St. Mary's Hospital; Leslie Graham Blackmore, Middlesex Hospital; Charles James Longworth Blair, St. Bartholomew's Hospital; James Bassett Brash, St. Bartholomew's Hospital; Albert William Abell Davies, Guy's Hospital; Frederick Graham Leslie Dawson, London Hospital; Saad el Din Ahmed El Daab, Cairo and Dublin; Abdel Aziz Hassan El-Zeneiny, Cairo and London Hospital; John Harold Ewen, St. Mary's Hospital; Edwin Francis Fernando, University College; John Turnbull Thomson Forbes, Otago and Guy's Hospital; Arthur Reginald Hart, King's College; Mahdy Sayed Hashish, Cairo and St. Bartholomew's Hospital; Thomas Lowthian Heath, Guy's Hospital; Henry Saumarez Hensman, L.M.S. Madras, Madras Medical College; Eric Blanford Hickson, University College; Stewart Russell Johnston, University College; Ganapathy Mallya, L.M.S. Madras, Madras Medical College; Reginald Stanley Millar, Durham University and Guy's Hospital; Ants Mishriky, St. Mary's Hospital; Bireswar Mitra, L.M.S. Calcutta, Calcutta Medical College; Vijaya Shankar Rao Pandit, Bombay University; Walter Davies Pearman, St. Mary's Hospital; Arthur Winifred Peeris, University College; Walter Erichsen Powell, Charing Cross Hospital and King's College; Hubert Llewellyn Pridham, St. Bartholomew's Hospital; Raghavandra Rau, Madras Medical College and Middlesex Hospital; Rupert Idris Rhys, Arthur Rodd, and Herbert Henry Silley, University College; Maurice Oliver Simpson, Middlesex Hospital; Robert Sydney Steele Smith, St. Bartholomew's Hospital; Vincent Russell Smith, St. Mary's Hospital; Eric Lionel Stephenson, London Hospital; Arthur Anton Thiel, St. Bartholomew's Hospital; Edward Sherman Toogood, B.A. Oxon., Oxford University; Shankarlal Kunvarji Vaidya, L.M.S. Bombay, Bombay University and London Hospital; Leonard Heatley Woods, St. Bartholomew's Hospital; and William Yeoman, University College.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the First Professional Examination for the Licence in Dental Surgery held on Sept. 24th, 25th, and 26th, the following candidates were approved in the subjects indicated:—

*Mechanical Dentistry and Dental Metallurgy.*—John Gordon Ackland Royal Dental Hospital; Geoffrey Walter Allen and Alfred Herbert Bowes, Guy's Hospital; Norman Henry Davey, Leeds University; Frederick Knowles Escritt, Wyndham Brookes Farrington, Edward Garratt Foulston, Philip Green, Douglas Brigstocke Hitchings, Charles Henry Kidner, and Harold Octavius Long, Guy's Hospital; Albert Victor Milton and Robert Orton, Leeds University; Stanley James Peatfield, Guy's Hospital; Enoch Sanders, Liverpool University; Cyril Wells Spendelow, Royal Dental Hospital; Arnold Clough Sutcliffe, Leeds University; Ian Murray Thomson, Guy's Hospital; Edward Francis Vowles, Bristol University; and Maurice Harold Wermig, Guy's Hospital.

*Mechanical Dentistry.*—Norman John Ainsworth, Royal Dental Hospital; Harry Edward Attkins, National Dental Hospital; Herbert Joseph Barrand, Guy's Hospital; Frederick David Blomfield, National Dental Hospital; Arthur Bowler, Liverpool University; Ellis Gardner Browne and Charles Reginald Cade, Guy's Hospital; Reginald George Joseph Charlesworth and Neville George Compton, Royal Dental Hospital; James Frank Cowell, Liverpool University; James Walter Curtis, Royal Dental Hospital; Stanley Willoughby Augustus Davis, Bristol University; Robert Peter Dewar, London Hospital; Lionel Harold Dixon, Guy's Hospital; Frank Leslie Hooton Fox, Bristol and Guy's Hospital; Robert William Fyffe and Leonard Wilfred Hearn, Sheffield University; Gerald Mackenzie Hickley, Royal Dental Hospital; Oswald Octavius Lloyd, Llewellyn Arwyn Morris, Frank Douglas Neal, and Arthur Llewellyn Payne, Guy's Hospital; John Peter, Royal Dental Hospital; Stanley Edwin Pomeroy, London Hospital; Beresford Tom Richards, Birmingham University; John Cowan Robertson and Simon Sanders, Guy's Hospital; Robert Ferdinand Sievers, Royal Dental Hospital; Norman Leslie Smallbone, London Hospital; Charles Herbert Davenport Smith, Royal

Dental Hospital; Cecil Stanley Southwell, Guy's Hospital; Mansfield John Knox Soutter, National Dental Hospital; Rodney Frederick Jarrett Sterwin, London Hospital; Eleanor Cannell Watterson, National Dental Hospital; and Leonard Gould Wheipton, Guy's Hospital.

*Dental Metallurgy.*—Barrington Eady and Jenkin Albert Evans, Guy's Hospital; Morgan James Evans, Birmingham University; George Frederick Faustmann, Guy's Hospital; Blanche Sutton Gardner, National Dental Hospital; Alice Dora Headley and Harold Awbery Hill, Birmingham University; William Grant Milton, Bristol University; John Rhys Morgan, Liverpool University; Henry Montgomery Scott Pillow, Guy's Hospital; David Maurice Rees and Valentine Sainty, Royal Dental Hospital; Hugh Muir Smith and Percival Albert Tucker, Guy's Hospital; Sorab Byramji Warden, M.B., B.S. Bombay, Bombay University and Royal Dental Hospital; and Claude Young, Royal Dental Hospital.

"BACILLI AND BULLETS."—Sir William Osler's recent address to the officers and men in the camps at Churton has now been issued as a penny pamphlet, entitled "Bacilli and Bullets," by the Oxford University Press.

A WEST COUNTRY CENTENARIAN.—Mrs. Mary Ann Saunders died last week at Yatton, Somersetshire. She celebrated the 103rd anniversary of her birthday on July 8th last.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL.—The Entrance Scholarships in Anatomy and Physiology, of the value of 70 guineas and £50, have been awarded to R. Salisbury Woods, of Downing College, Cambridge, and J. A. Birrell, of the University of Wales respectively.

WESTMINSTER HOSPITAL MEDICAL SCHOOL.—The following awards of scholarships have been made: Guthrie scholarship in arts (£60), J. G. Wilson, Colfe Grammar School, Lewisham; natural science (£60), E. S. Davies, University College, London; anatomy and physiology (£50), N. M. Lewis, Cardiff Medical School.

WEST LONDON POST-GRADUATE COLLEGE.—The autumn session will begin on Monday next, Oct. 12th, at the West London Hospital, Hammersmith-road, W. The practice of this general hospital is reserved for post-graduate students attached to the college. Full information may be obtained from the dean of the college, Mr. Donald Armour.

NEW PROFESSOR OF ANATOMY AT ST. ANDREWS UNIVERSITY.—Professor David Waterston, M.A., M.D., C.M. Edin., has been appointed to succeed Professor J. Musgrove in the Bute chair of anatomy in the United College of the University of St. Andrews. Professor Waterston leaves King's College, London, where he has been professor of anatomy.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON).—The following are the results of the Entrance Scholarships:—Price Entrance Scholarship in Science, £100, I. H. Zortman; Price Entrance Scholarship in Anatomy and Physiology for students of the Universities of Oxford and Cambridge, £52 10*s.*, H. D. McIlroy (Jesus College, Cambridge).

SCARLET FEVER IN BELFAST.—During the period embraced between August 16th and Sept. 12th last, 147 cases of scarlet fever were notified, the total number of infectious diseases notified being 187; those in addition to scarlet fever recorded are 15 of diphtheria, 9 of typhoid fever, and 16 of erysipelas. The ordinary public health measures—notification, isolation, hospital treatment, and disinfection—have had no effect whatever in diminishing the occurrence of scarlet fever in Belfast. For the same period the death-rate from all causes was 18·7, while from zymotic diseases it was 5·5, and from chest affections, 4·5.

A PERIODICAL FOR LOST REFUGEES.—With the authorisation of the Belgian Minister, Count de Lalaing, a paper, called *L'Echo de Belgique*, is published weekly at 43, Palace-street, London, S.W. The object is to assist the Belgian refugees in this country by giving them, in French and Flemish, a brief summary of the week's news, but, above all, by providing a means of intercommunication. In the flight from their bombarded or destroyed towns and villages members of the same family were often separated from each other. Populations scattered in all directions are now longing to come together again, to discover who has escaped, and to communicate with one another. The first issue of the paper contains several hundred names of refugees who want to know what has become of their nearest friends and relations. Of course, this publication is not a commercial speculation. It is distributed gratuitously among the refugees, and no charge is made for inserting their appeals and inquiries. Those, however, who can afford to buy the paper will assist the work of relief by helping to keep the publication going.

DEATH OF A MEDICAL VETERAN.—The death is announced at Audley, in Staffordshire, of Dr. Richard Vernon, in his ninety-eighth year. He qualified L.S.A. in 1846 and obtained the M.D. degree of the University of Glasgow in the same year. For 20 years he was medical officer of health of Audley.

PRESENTATION TO A MEDICAL PRACTITIONER.—At the annual distribution of awards to the members of the Falmouth division of the St. John Ambulance Brigade, Dr. Charles Robert Browne was presented with a pair of spurs as a mark of appreciation for his services as honorary instructor, and to congratulate him on his recent appointment as major in the R.A.M.C. (T.F.)

PHARMACEUTICAL SOCIETY.—The seventy-third session of the School of Pharmacy of the Pharmaceutical Society was opened on Sept. 30th, when an address was delivered in the lecture theatre at 17, Bloomsbury-square, London, W.C., by Dr. Lauriston E. Shaw. Dr. A. W. Crossley, F.R.S., has resigned the professorship of chemistry at the school, having been appointed to the chair of organic chemistry at King's College, University of London. Professor Henry L. Smith, formerly lecturer in chemistry at King's College, London, and in applied chemistry at King's College for Women, has succeeded Professor Crossley in the Pharmaceutical Society's chair of chemistry.

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill announce for autumn publication the following new books:—"The Anatomy of the Human Skeleton," by J. Ernest S. Frazer, F.R.C.S. Eng., lecturer on anatomy at St. Mary's Hospital Medical School (with 219 illustrations); "Medical Diagnosis," by Arthur Latham, M.D. Oxon., F.R.C.P. Lond., physician and lecturer on medicine at St. George's Hospital, and J. A. Torrens, M.B., B.S. Lond., M.R.C.P. Lond., assistant physician to St. George's Hospital (with about 100 illustrations); and "The Chemistry of Cyanogen Compounds and their Manufacture and Estimation," by Herbert E. Williams.

ROYAL DENTAL HOSPITAL OF LONDON, SCHOOL OF DENTAL SURGERY.—On account of the war the dinner for past and present students announced to be held on Nov. 21st will not take place this year. Sir Charles Wyndham will distribute the prizes next year instead of this year, as previously arranged. The prizes for this year will be distributed by the chairman of the managing committee, Mr. Arthur Hood, on Nov. 17th, at 5.30 P.M. No formal invitations will be issued, but old students and friends will be welcome. The post-graduate lectures announced for October and November will be postponed, but may be given in the New Year if circumstances permit.

# Appointments.

*Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to* THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALEXANDER, R., CHARLES, F.R.C.S. Edin., has been appointed Temporary Assistant Surgeon to the Royal Infirmary, Edinburgh.

CARLOW, WALTER W., F.R.C.S. Edin., has been appointed Temporary Assistant Surgeon to the Royal Infirmary, Edinburgh.

DOLAN, CHARLES, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Dispensary Medical Officer for Ballinamore, County Cavan.

EVANS, D. A., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed House Surgeon at the Herefordshire General Hospital.

GRAHAM, JAMES M., F.R.C.S. Edin., has been appointed Temporary Assistant Surgeon to the Royal Infirmary, Edinburgh.

JARDINE, FRANK E., F.R.C.S. Edin., has been appointed Temporary Assistant Surgeon to the Royal Infirmary, Edinburgh.

MCGRATH, P., L.R.C.P. & S. Irel., D.P.H., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Ardagh District of the county of Limerick.

RITCHIE, J., M.D., C.M. Aberd., D.P.H., has been appointed Medical Officer for the Buchan Combination Poorhouse, Maud.

WEBB, C. C., M.B., B.C. Cantab., D.P.H., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Yatton District of the county of Somerset.

WOOD, WALTER Q., M.B., Ch.B. Edin., has been appointed Temporary Assistant Surgeon to the Royal Infirmary, Edinburgh.

# Vacancies.

*For further information regarding each vacancy reference should be made to the advertisement (see Index).*

ASHTON-UNDER-LYNE DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Senior House Surgeon. Salary £140 per annum, with board, residence, and laundry.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Resident Medical Officer for six months. Salary at rate of £160 per annum, with board, residence, and washing.

BIRKENHEAD BOROUGH HOSPITAL.—Junior House Surgeon. Salary £100 per annum, with board and laundry.

BIRMINGHAM CITY ASYLUM, Rubery-hill.—Junior Assistant Medical Officer. Salary £200 per annum, with apartments, board, laundry, &c.

BIRMINGHAM UNION.—DUDLEY-ROAD INFIRMARY: Third Assistant Medical Officer and Fourth Assistant Medical Officer. Salary at rate of £180 and £160 per annum respectively. ERDINGTON INFIRMARY AND COTTAGE HOMES: Assistant Medical Officer. Salary at rate of £200 per annum. SELLY OAK INFIRMARY: Assistant Medical Officer. Salary at rate of £180 per annum. Apartments, rations, laundry, and attendance in each case.

BIRMINGHAM, YARDLEY-ROAD SANATORIUM AND ANTI-TUBERCULOSIS CENTRE.—Third Assistant Medical Officer. Salary £200 per annum, with board and residence.

BOLTON INFIRMARY AND DISPENSARY.—Second House Surgeon. Salary £120 per annum, with apartments, board, and attendance.

BOOTLE BOROUGH HOSPITAL.—Junior House Surgeon. Salary £100 per annum, with residence, board, and laundry.

BOURNEMOUTH, ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House Surgeon, unmarried, for six months. Salary £100 per annum and extras, with board, lodging and washing.

BRIGHTON COUNTY BOROUGH ASYLUM, Haywards Heath.—Temporary Resident Assistant Medical Officer. Salary £5 5s. a week.

BRISTOL CITY ASYLUM, Fishponds.—Second Assistant Medical Officer, unmarried. Salary £250 per annum, with apartments, board, washing, and attendance.

BRISTOL, COSSHAM MEMORIAL HOSPITAL, Kingswood.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

BRISTOL GENERAL HOSPITAL.—First House Physician, Second House Physician, House Surgeon, and Casualty House Surgeon for six months. Salary at rate of £120 per annum, with board, residence, &c.

BRISTOL ROYAL INFIRMARY.—House Surgeon and House Physician for six months. Salary at rate of not less than £100 per annum, with board, apartments, and laundry.

BURY ST. EDMUNDS, WEST SUFFOLK GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £160 per annum, with board, lodging, and laundry.

CAMBERWELL INFIRMARY, Brunswick-square, Camberwell.—Assistant Medical Officer. Salary £190 per annum. Also Assistant Medical Officer for six months for Infirmary, Brunswick-square, Camberwell, and Gordon-road Institution, Peckham. Salary at rate of £200 per annum. Apartments, board, and washing in each case.

CANCER HOSPITAL, Fulham-road, S.W.—Surgical Registrar. Salary £100 per annum.

CANTERBURY, KENT COUNTY ASYLUM, Chartham.—Junior Assistant Third Medical Officer, unmarried. Salary £250 per annum, with quarters, board, washing, &c.

CARDIFF CITY MENTAL HOSPITAL, Whitchurch, near Cardiff.—Second Assistant Medical Officer, unmarried. Salary £280 per annum and all found.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.—Registrar.

CHEDDLETON, LEEK, STAFFORDSHIRE COUNTY MENTAL HOSPITAL.—Assistant Medical Officer. Salary £270 per annum, with quarters, board, attendance, and washing.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Senior House Surgeon. Salary £140 per annum, with board, apartments, and laundry.

CHICHESTER, ROYAL WEST SUSSEX HOSPITAL.—House Surgeon, unmarried. Salary £110 per annum, with board, residence, and washing.

CITY OF WESTMINSTER UNION INFIRMARY, Fulham-road, S.W.—Second Assistant Medical Officer and Third Assistant Medical Officer. Salaries £160 and £140 per annum respectively, with board, residence, and washing.

DERBY, DERBYSHIRE HOSPITAL FOR SICK CHILDREN.—Female Resident Medical Officer. Salary £100 per annum.

DURHAM COUNTY HOSPITAL.—House Surgeon. Salary £150 per annum, with board, residence, and laundry.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £140 per annum, with board, lodging, and washing.

HACKNEY UNION INFIRMARY, High-street, Homerton, N.E.—Two Junior Assistant Medical Officers. Salaries £170 per annum, with rations, apartments, and attendance.

HALIFAX ROYAL INFIRMARY.—Second and Third House Surgeons, both unmarried. Salaries £120 and £100 per annum respectively, with residence, board, and washing.

HARTLEPOOL, HARTLEPOOLS HOSPITAL.—House Surgeon. Salary £125 per annum, with board, washing, and lodging.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician for six months. Salary £5 5s. per month.

HUDDERSFIELD ROYAL INFIRMARY.—Assistant House Surgeon. Salary £80 per annum, with board, rooms, and washing.

HULL ROYAL INFIRMARY.—Senior House Surgeon, unmarried. Salary £150 per annum, with board and apartments. Also Assistant House Surgeon. Salary at rate of £100 per annum, with board and lodging.

LEEDS PUBLIC DISPENSARY.—Resident Medical Officer. Salary £130 per annum, with board, residence, and laundry.

LEICESTERSHIRE AND RUTLAND MENTAL HOSPITAL, Narborough, near Leicester.—Junior Medical Officer. Salary £200 per annum, with board, lodging, and washing.

LIVERPOOL ROYAL SOUTHERN HOSPITAL.—House Physician and House Surgeon for six months. Salary at rate of £60 per annum, with board and residence.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—House Surgeon. Salary £50 per annum.

MANCHESTER, CITY OF.—Assistant Tuberculosis Officer. Salary £350 per annum.

MANCHESTER EDUCATION COMMITTEE.—Female Assistant School Medical Officer. Salary £300 per annum.

MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, coal, and gas.

MANCHESTER, MONSALL FEVER HOSPITAL.—First Medical Assistant. Salary £225 per annum, with board, lodging, and washing.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Parkplace, Cheetham Hill-road.—House Surgeon. Salary £120 per annum, with apartments and board.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House Surgeon. Salary £30 per annum, with residence, board, and washing.

MARGATE, ROYAL SEA BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—Resident Surgeon. Salary at rate of £150 per annum, with board, residence, and laundry.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Temporary Assistant Surgeon.

MIDDLESBROUGH, NORTH ORMESBY HOSPITAL.—House Surgeon. Salary £120 per annum, with board, apartments, washing, and attendance.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Resident Medical Officer. Also Junior House Surgeon for six months. Salaries £150 and £85 per annum respectively, with board, residence, and laundry.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Assistant Physician.

NEWCASTLE-UPON-TYNE CITY ASYLUM, Gosforth.—Locum Tenens Assistant Medical Officer.

NEWCASTLE-UPON-TYNE HOSPITAL FOR SICK CHILDREN.—Senior Medical Officer and Junior Medical Officer for six months. Salary £100 and £80 per annum respectively, with board, lodging, and laundry.

NEWPORT (MON.), ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at rate of £100 per annum, second six months £125, and third six months £150, with board, residence, and laundry.

NORTHAMPTON COUNTY ASYLUM, Berry Wood.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

NOTTINGHAM CITY EDUCATION COMMITTEE.—Third Medical Inspector. Salary £300 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Physician and Assistant House Surgeon for six months. Salary at rate of £100 per annum each, with board, residence, and laundry. Also Senior House Physician. Salary £120 per annum, with board, residence, and laundry.

OTAGO UNIVERSITY, NEW ZEALAND.—Professor of Clinical Pathology. Salary £600 per annum.

PORTSMOUTH ROYAL HOSPITAL.—House Surgeon for six months. Salary £90 per annum, with board, &c.

PRESTON ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary £120 per annum, with board, residence, and laundry.

PUTNEY HOSPITAL, Putney Common, S.W.—Resident Medical Officer. Salary £150 per annum, with rooms, board, and laundry.

RAMSGATE GENERAL HOSPITAL AND DISPENSARY.—Resident House Surgeon, unmarried. Salary £120 per annum, with board, residence, and laundry.

READING, BERKSHIRE EDUCATION COMMITTEE.—Assistant Medical Inspector of Schools. Salary £300 per annum.

READING, ROYAL BERKSHIRE HOSPITAL.—House Surgeon, House Physician, and Second House Surgeon for six months. Salary each £100 per annum, with apartments, board, and washing.

ROTHERHAM HOSPITAL.—Assistant House Surgeon. Salary £110 per annum, with board, lodging, and washing.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Male and Female House Physicians and House Surgeons for six months. Also Junior Obstetric Assistant for six months. Board, lodging, and washing provided in each case. Also Two Acting Assistant Surgeons for out-patients. Also Female Assistant Anæsthetist for six months. Salary £75 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £70 per annum, with board and washing.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand, W.C.—Radiographer, part time only. Salary 25 guineas per annum. Also House Surgeon for six months. Salary at rate of £50 per annum, with board, residence, and laundry. Also Assistant House Surgeon. Salary (non-resident) £20 for six months, with part board.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House Surgeon, unmarried. Salary £115 per annum.

ST. GEORGE'S HOSPITAL.—Two House Surgeons for six months. Board and residence provided.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Female Resident Medical Officer and Female Assistant Resident Medical Officer. Salary at rate of £110 and £90 per annum respectively, with board, residence, and laundry.

ST. PANCRAS DISPENSARY, 39, Oakley-square, N.W.—Resident Medical Officer, unmarried. Salary £105 per annum, with residence and attendance.

SALFORD ROYAL HOSPITAL.—Resident Surgical Officer and Casualty House Surgeon for six months. Salary at rate of £120 and £100 per annum respectively, with board and residence.

SALISBURY (GENERAL) INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, lodging, and washing.

SHEFFIELD CHILDREN'S HOSPITAL.—House Surgeon. Salary £150 per annum, with board and residence. Also House Surgeon at East End Hospital (Out-patient Department only). Salary £120 per annum, with board and residence.

SHEFFIELD ROYAL INFIRMARY.—Two House Surgeons and Assistant House Physician for six months. Salary £100 per annum each, with board and residence.

SOUTHAMPTON FREE EYE HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £115 per annum, with residence, board, and washing.

SUNDERLAND COUNTY BOROUGH EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.

SUNDERLAND ROYAL INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, residence, and laundry.

SWANSEA UNION.—Resident Assistant Medical Officer. Salary about £295 per annum.

TAUNTON, TAUNTON AND SOMERSET HOSPITAL.—Senior House Surgeon and Assistant House Surgeon. Salaries £120 and £80 per annum respectively, with board, lodging, and laundry.

TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, and washing.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST ON THE SEPARATE PRINCIPLE.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, &c.

WAKEFIELD, WEST RIDING ASYLUM.—Assistant Medical Officer. Salary £200 per annum, with apartments, board, washing, and attendance. Also Locum Tenens Assistant Medical Officer. Salary as arranged, with apartments, board, and travelling expenses.

WALSALL AND DISTRICT HOSPITAL.—Junior House Surgeon and Anæsthetist. Salary £110 per annum, with board, residence, and laundry.

WANDSWORTH UNION INFIRMARY, Ouseley-road, Balham, S.W.—Second Assistant Medical Officer, unmarried. Salary at rate of £150 per annum, with board, lodging, and washing.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Senior House Physician. Salary £120 per annum, with board, residence, and washing.

WEST HAM UNION INFIRMARY, Whipps Cross-road, Leytonstone, N.E.—Third Assistant Resident Medical Officer. Salary £180 per annum, with usual residential allowances.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon and Resident Medical Officer for six months. Salary each at rate of £125 per annum, with board, rooms, and laundry. Also Pathologist. Salary £200 per annum.

YORK COUNTY HOSPITAL.—House Physician and House Surgeon for six months. Salary at rate of £100 per annum each, with board, residence, &c.

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THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Rowfant, in the county of Sussex; and at Stanford-le-Hope, in the county of Essex.

# New Addresses.

GASKELL, J. F., M.D., The Uplands, Great Shelford, Cambridge.

*A fee of 2s. 6d. is charged for the insertion of Notices of Change of Address, which must not exceed two lines.*

# Births, Marriages, and Deaths.

## BIRTHS.

BALLANCE.—On Oct. 2nd, at Selwyn-gardens, Cambridge, the wife of Hamilton A. Ballance, M.S. Lond., of Norwich, of a daughter.

BROOKS.—At Stanway-gardens, Ealing Common, W., to Dr. and Mrs. Ralph St. John Brooks, a son.

PARKHURST.—On Oct. 2nd, at Rathan, Newhaven, the wife of Rodie Parkhurst, M.B., C.M., of a son.

## MARRIAGES.

LEE—MCNAB.—On Sept. 30th, at Murrayfield-gardens, Edinburgh, Alaister Fraser Lee, M.D., R.A.M.C.T., Lieutenant Highland Mounted Brigade Field Ambulance, to Minnie, second daughter of the late Mr. John McNab, and of Mrs. McNab, Seacraig, Nairn.

PRIDEAUX—THOMAS.—On Sept. 29th, at St. Mary Magdalene, Loders, Bridport, Dorset, Charles Sydney Prideaux, L.D.S. R.C.S. Eng., to Adeline Irene, eldest daughter of the Rev. David and Mrs. Thomas, of The Vicarage, Loders.

## DEATHS.

LITTLEJOHN.—On Sept. 30th, at Benreoch, Arrochar, Sir Henry Duncan Littlejohn, M.D., in his 87th year.

O'CONNELL.—On Sept. 20th, killed in action at the Battle of the Aisne, Lieutenant John Forbes O'Connell, M.B., B.S. Lond., R.A.M.C., aged 25 years.

PILGRIM.—On Oct. 1st, at Brighton, suddenly, Lieutenant-Colonel Herbert Wilson Pilgrim, M.B., F.R.C.S. Eng., Indian Medical Service (retired), aged 56 years.

SHAW.—While on a visit to Bournemouth, Harold Bailey Shaw, M.B., B.A., aged 55, Medical Superintendent of the Isle of Wight County Asylum.

VASSIE.—On Oct. 2nd, at Crofton Hill, Lanark, Mary Janet Spears, wife of Alex. H. Vassie, M.B., C.M., 98, Priory-road, London, N.W., only child of the late William Roy Spears, Solicitor and Town Clerk of Kirkcaldy. (No flowers.)

***N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.***

# Notes, Short Comments, and Answers to Correspondents.

*During the continuance of the war the size of* THE LANCET *will be curtailed. This has been necessitated primarily by the difficulty in ensuring an adequate supply of paper, but the contributions of most of our correspondents on the continent have failed, and will fail, to reach us. Many special features of* THE LANCET *have had to be sacrificed for the time, and while we ask the indulgence of our readers for this, we promise to restore them at the earliest possible opportunity.*

## BRITISH REGIMENTAL HOSPITALS IN 1799.

IN the year 1799 there was issued from the Horse Guards in London, "By Order of His Royal Highness the Commander in Chief," by Harry Calvert, Adjutant General, a small handbook of "Regulations from the Army Medical Board to Regimental Surgeons," &c. This little book has come into our possession. On p. 18 the "Duties of the Surgeon" are set out as follows: "It is necessary that every Surgeon of the regular forces, militia, supplementary militia, or fencible corps, whether he receives allowances from government for furnishing Hospital, Hospital bedding, serjeant, nurse, orderlies, medicines, materials, &c., or whether he is furnished with the same by government, shall keep in his possession, ready for immediate use, a sufficient quantity of the best medicines and materials, according to the Army Dispensatory No. 2.—An invoice for a full Regimental Chest, calculated for 1000 men, is also added, No. 3. He is likewise to be always in possession of a complete set of instruments for regimental Hospitals, provided at his own expence, agreeable to the annexed list, No. 4. A list of a field set, for more immediate and actual service, is also subjoined, No. 5." The following is a copy of the list No. 4, referred to: "A Compleat Set of Instruments, with Modern Improvements, for Regimental Hospitals. An Amputating Saw, with spare Blade; 1 Metacarpal Saw, with ditto; 24 Curved Needles; 2 Amputating Knives; 1 Catlin; 2 Tenaculems; 1 Bullet Forceps; 1 Pair of Bone Nippers; 2 Screw Tourniquets; 4 Field Tourniquets with Handle; 2 Callico Compresses; 2 Trephines, with sliding Keys; 1 Trephine Forceps; 1 Elevator; 1 Lanticular; a Brush; Key Instruments for Teeth, to fit Trephine Handle; 8 Scalpels; 2 Silver Catheters; 1 Trocar with Spring and introductory Canula; 1 Ditto, ditto, and Canula for Hydrocele; 1 Probang; 1 Long Silver Probe; 1 Large Bougie." The following is a copy of List No. 5, and the surgeon who used the book has inscribed in faint pencil the prices of the instruments:—"A Compleat Set of Instruments for the Field, with the Modern Improvements. An Amputating Saw, £1 1*s.*; 1 Metacarpal Saw, 7*s.* 6*d.*; 12 Curved Needles, 6*s.*; 1 Amputating Knife, 7*s.*; 1 Catlin, 3*s.* 6*d.*; 1 Screw Tourniquet, 10*s.* 6*d.*; 1 Silver Catheter, 8*s.*; 1 Elastic ditto, 9*s.*; 2 Trephines, to fit one Handle, £2 2*s.*; 1 Trephine Forceps, 5*s.*; 1 Elevator, 3*s.* 6*d.*; 2 Scalpels, 4*s.*; 1 Bullet Forceps, 5*s.*; 1 Trocar with Spring & introductory Canula, 14*s.*; 1 Trocar with Spring Canula for Hydrocele, 5*s.*; a Brush, 1*s.*; A Tenaculem, 1*s.* 6*d.*; Thread for Ligatures, 1*s.*" To these he has added in pencil, "case" £1 15*s.*, and he makes the total £9 17*s.* The Regulations say that: "A Regiment consisting of 1000 men, and provided with three medical persons, ought to be furnished with Hospital necessaries and utensils for at least forty patients, forty cotton night-caps, forty sets of bedding, in the proportion of four for every hundred men; each set consisting of one palliass, one straw mattrass, one bolster, three sheets, two blankets, and one rug. Each Hospital ought to be furnished with a slipper bath, or bathing tub, two water buckets, one dozen of Oznaburgh towels, one dozen of flannel cloths, half a dozen of large sponges, combs, razors, and soap, two large kettles, capable of making soup for 30 men, two large tea kettles, two large tea pots, two sauce-pans, forty tin cans of one pint each, forty spoons, one dozen of knives and forks, two close-stools, two bed-pans, and two urinals."

## THE WISDOM OF ANIMALS.

*To the Editor of* THE LANCET.

SIR,—In respect to the universal aversion of cats for water noticed in THE LANCET of Sept. 26th, I may mention an incident which came under my own observation last month. Standing on a bridge carrying a road over a "drain" in Romney Marsh I noticed a cat on one of the wooden supports just preparing to spring at something, probably a vole, in

the water below. The cat was about 2 ft. above the water, and the aim for the spring was about a yard away, among some weeds. Suddenly the splash came; there was some struggling, and then the cat scrambled back to the bank, soaking wet, without its prey. The expression of exasperation on its face was human; the look it gave me as it passed was one of such anger as to suggest at once lurid language. Just before disappearing it turned round and glared at me, as if to relieve itself of some of its feelings, and as if to say, "You —— bounder, it was you who spoilt my sport." But I was merely a spectator.—I am, Sir, yours faithfully,

Oct. 5th, 1914. PERCY DUNN.

## CENTIGRADE AND FAHRENHEIT.

*To the Editor of* THE LANCET.

SIR,—An easy way of remembering how to convert degrees Centigrade into degrees Fahrenheit and *vice versa* is supplied by the mem. tech. "See far enough at thirty-two" (C. Fahr. n/f add 32), where $\frac{n}{f}$ stands for 9 over 5. If you want to go back—i.e., from F. to C., go back, simply changing the signs as you go. Thus, subtract 32, multiply by 5, divide by 9. The whole formula may be briefly represented thus:—

"SEE FAR ENOUGH AT THIRTY-TWO
<——————————————."

My explanation is, perhaps, somewhat cumbersome, but the formula once understood is quite difficult to forget.

I am, Sir, yours faithfully,

Brompton, S.W., Oct. 1st, 1914. F. A. HORT.

*** The ordinary formula, for comparison, is $\frac{C. \times 9}{5} + 32 = F.$

—ED. L.

## PROPRIETARY MEDICINES IN THE FAR EAST.

REPORTING on the trade of the district of Osaka, Japan, for the year 1913 Mr. Oswald White, the British Vice-Consul, observes that a flourishing little business is done in proprietary medicines, of which China took in 1913 £117,000 worth from Osaka and Kobe. They are mostly in the form of pills, which claim to be specific against most of the minor ills of life. The Japanese themselves consume considerable quantities and sales in China appear to be growing.

## PERKINS'S TRACTORS.

*To the Editor of* THE LANCET.

SIR,—Perhaps some more details concerning Perkins and his Tractors may be of interest to your readers.[1] This subject was dealt with fully in 1842 by Oliver Wendell Holmes in two lectures delivered in Boston on "Homœopathy and its Kindred Delusions." The following is the account which Holmes gave of the inventor:—

"Dr. Elisha Perkins was born at Norwich, Connecticut, in the year 1740" (not 1745 as stated in THE LANCET). "He had practised his profession with a good local reputation for many years, when he fell upon a course of experiments, as it is related, which led to his great discovery. He conceived the idea that metallic substances might have the effect of removing diseases, if applied in a certain manner; a notion probably suggested by the then recent experiments of Galvani, in which muscular contractions were found to be produced by the contact of two metals with the living fibre. It was in 1796 that his discovery was promulgated in the shape of the *Metallic Tractors*, two pieces of metal, one apparently iron and the other brass, about three inches long, blunt at one end and pointed at the other. These instruments were applied for the cure of different complaints, as rheumatism, local pains, inflammations and even tumours, by drawing them over the affected part very lightly for about twenty minutes. Dr. Perkins took out a patent for his discovery, and travelled about the country to diffuse the new practice. He soon found numerous advocates of his discovery, many of them of high standing and influence. In the year 1798, the tractors had crossed the Atlantic and were publicly employed in the Royal Hospital at Copenhagen. About the same time the son of the inventor, Mr. Benjamin Douglass Perkins, carried them to London, where they soon attracted attention. The Danish physicians published an account of their cases, containing numerous instances of alleged success, in a respectable octavo volume. In the year 1804, an establishment, honoured with the name of the Perkinean Institution, was founded in London. The transactions of this institution were published in pamphlets, the Perkinean Society had public dinners at the Crown and Anchor, and a poet celebrated their medical triumph. ..... While all these things were going on Mr. Benjamin Douglass Perkins was calmly pocketing money, so that after some half a dozen years he left the country with more than ten thousand pounds, which had been paid him by the believers in Great Britain. But ..... Perkinism soon began to decline, and in 1811 the tractors are spoken of by an intelligent writer as being almost forgotten."

"Terrible Tractoration" (which was referred to in your note) "is supposed," says the Autocrat, "by those who never read it, to be a satire upon the follies of Perkins and his followers. It is, on the contrary, a most zealous defence of Perkinism, and a fierce attack upon its opponents, most especially upon such of the medical profession as treated the subject with neglect or ridicule."

It is at least some satisfaction to learn that the Connecticut Medical Society expelled Perkins in 1797 for violating their law against the use of nostrums or secret remedies.

I am, Sir, yours faithfully,

E. MUIRHEAD LITTLE.

Seymour-street, W., Oct. 1st, 1914.

[1] THE LANCET, Sept. 12th, 1914.

## FOOD ECONOMY.

THE great war and its probable effect sooner or later on the national food-supply should surely bring home to the nation the importance of economy and of husbanding resources. It is undoubtedly true that very many of us habitually eat too much food, often of the wrong kind, and prepared in the least physiologically useful manner, and that a large amount of foodstuff is continuously wasted. Some intertesting notes on these and kindred subjects, such as the rise in prices, a pure milk-supply, bread and breadmaking, meals for under-nourished scholars, and institutional and school diet, are to be found in the Sixth Annual Report of the National Food Reform Association, published at 178, St. Stephen's House, Westminster, price 6*d*.

## AN AUTUMN CRUISE TO MOROCCO.

THE Royal Mail Steam Packet Company announce an autumn cruise to Morocco, the Canary Islands, and Madeira by the *Arzila*, which has been appointed to sail from London in about a fortnight's time. The cruise will last 23 days and include calls at Gibraltar, the ports of Tangier, Casablanca, Mazagan, Saffi, and Mogador in Morocco, and the islands of Las Palmas, Teneriffe, and Madeira. The charge for the round trip is £18.

THE Globe-Wernicke Company, Limited, are anxious to correct the impression which may exist that their company is connected with German interests in any way whatsoever. They state that it is an all British concern with English proprietors and employing only British labour. The word "Wernicke" in the title is due to the fact that many years ago they purchased the patent rights of their "elastic" bookcases from the inventor, a Mr. Wernicke, an American born citizen, and they also purchased the right to use his name which was associated with these patents. Mr. Wernicke is not connected in any way with the company, which has never imported or sold German furniture.

Mr. N. H. Graesser writes as follows: As there is apparently some doubt in regard to the origin of many of the Cresol disinfectants now being offered, I have pleasure in informing you that "Acrosyl" is made throughout at my works at Ruabon, North Wales, by British labour and British capital.

**COMMUNICATIONS not noticed in our present issue will receive attention in our next.**

## METEOROLOGICAL READINGS.

*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, Oct. 7th, 1914.

| Date. | | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Rainfall. | Solar Radio in Vacuo. | Maximum Temp. in Shade. | Min. Temp. | Wet Bulb. | Dry Bulb. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|
| Oct. | 1 | 30·27 | S.W. | ... | 103 | 67 | 45 | 46 | 48 | Fine |
| ,, | 2 | 30·23 | W. | ... | 70 | 60 | 48 | 54 | 56 | Overcast |
| ,, | 3 | 30·25 | W. | ... | 105 | 67 | 56 | 56 | 57 | Overcast |
| ,, | 4 | 30·30 | W. | ... | 94 | 61 | 51 | 52 | 55 | Cloudy |
| ,, | 5 | 30·41 | N.W. | ... | 94 | 63 | 47 | 47 | 49 | Overcast |
| ,, | 6 | 30·22 | N. | ... | 74 | 60 | 49 | 55 | 58 | Overcast |
| ,, | 7 | 30·32 | E. | ... | 102 | 63 | 52 | 49 | 53 | Cloudy |

**The following magazines, journals, &c., have been received:—**
Interstate Medical Journal, Monthly Cyclopædia, Journal of State Medicine, Indian Medical Journal, Indian Medical Gazette, Journal of Obstetrics and Gynæcology, British Journal of Inebriety, British Journal of Dental Science, Bulletin of the Johns Hopkins Hospital, South African Medical Record, Medical Journal of South Africa, Eugenics Review, Birmingham Medical Review, Practitioner, Political Quarterly, Therapeutic Gazette, Bio-Chemical Journal, American Journal of Tropical Diseases.

# Medical Diary for the ensuing Week.

## SOCIETIES.

**ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.**

THURSDAY.

SECTION OF DERMATOLOGY (Hon. Secretaries—S. E. Dore, A. M. H. Gray): at 5 P.M.

*Cases:*

Dr. J. H. Sequeira: (1) Sarcoids; (2) Myxo-sarcoma.
Dr. H. C. Samuel: Xerodermia Pigmentosa in an Adult.
Dr. S. E. Dore: Multiple Soft Fibromata.
And other Cases.

FRIDAY.

SECTION OF ELECTRO-THERAPEUTICS (Hon. Secretaries—S. Gilbert Scott, B. P. Cumberbatch): at 8.30 P.M.

*Discussion:*

On the Localisation of Foreign Bodies (including bullets, &c.) by X-rays, to be opened by Sir James Mackenzie Davidson, M.B. (illustrated by means of skiagrams, &c.).

**MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.**

MONDAY.—8 P.M., General Meeting. 8.30 P.M., Introductory Address by the President (Sir John Bland Sutton).

**SOCIETY FOR THE STUDY OF INEBRIETY, Rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W.**

TUESDAY.—3.30 P.M., Council Meeting. 4 P.M., Discussion on Drug Addiction in Relation to Mental Disorder (opened by Dr. R. Armstrong-Jones).

**HUNTERIAN SOCIETY, Barbers' Hall, Monkwell-street, E.C.**

WEDNESDAY.—8.30 P.M., Council Meeting. 9 P.M., Hunterian Society Lecture:—Sir Dyce Duckworth, Bart.: The Patient and the Disease.

**SOUTH-WEST LONDON MEDICAL SOCIETY, Bolingbroke Hospital, Wandsworth Common, S.W.**

WEDNESDAY—9 P.M, Dr. A. Whitfield: Lichen Planus, its Varieties and Treatment. (Lantern Demonstration.)

## LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

**ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.**

Museum Demonstrations for Advanced Students and Medical Practitioners:—

FRIDAY.—5 P.M., Prof. A. Keith: Specimens illustrating Gunshot Injuries of the Head—Ancient and Modern.

**POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.**

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman and Mr. Gibb: Eye Department. 5 P.M., Lecture.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. Dr. Owen: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M. Mr. Souttar: Demonstration of Minor Operations. 12 noon Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women. Mr. Gibb: Diseases of the Eye. 5 P.M., Lecture.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 10 A.M., Dr. Simson: Gynæcological Demonstration. 12 noon, Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Mr. B. Harman: Diseases of the Eye. 5 P.M., Lecture.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture:—Dr. Bernstein: Applied Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Eye Operations. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

**NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.**

TUESDAY.—3.30 P.M., Lecture:—Dr. F. E. Batten: Clinical Cases.
FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. G. Stewart: Localisation of Cerebellar Tumours.

**THE THROAT HOSPITAL, Golden-square, W.**

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

**ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.**

TUESDAY.—4 P.M., Dr. J. L. Bunch: Salvarsan and Syphilis.
THURSDAY.—6 P.M., Chesterfield Lecture:—Dr. M. Dockrell: Baldness and its Treatment.

**MANCHESTER HOSPITALS POST-GRADUATE CLINICS.**

THURSDAY.—ANCOATS HOSPITAL, Mill street.—4.30 P.M., Dr. D. E. Core: Disseminated Sclerosis.

*For further particulars of the above Lectures, &c., see Advertisement Pages.*

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

*It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.*

*Lectures, original articles, and reports should be written on one side of the paper only,* AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

*Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.*

*We cannot prescribe or recommend practitioners.*

*Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."*

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